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CATALOGUE
OF THE
FISHES OF SOUTH AUSTRALIA.

BY EDGAR R. WAITE, F.L.S., DIRECTOR SOUTH AUSTRALIAN MUSEUM.

Plate i and Text fig. 1—332.

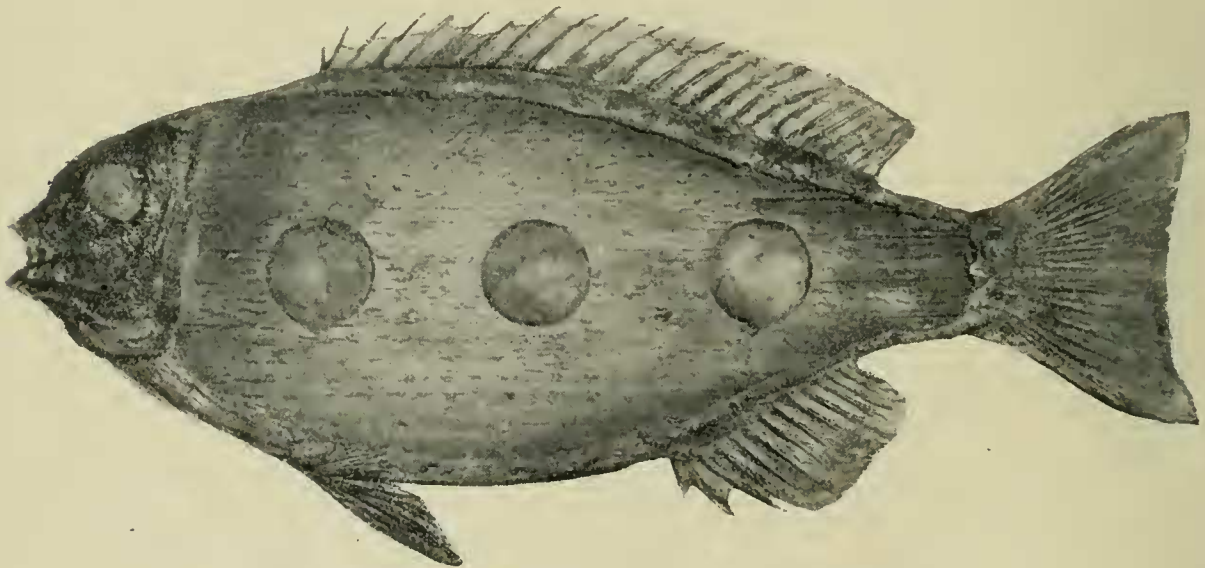
THE primary object of the catalogue is to record the present state of our systematic knowledge of the fishes found in the seas and fresh waters of South Australia. In doing this, however, it is recognized that the list is a mere foundation, known to be incomplete, but supplied as a basis upon which to build. Examination of much material and consequent revision of the catalogue, as it now stands, will be necessary, but were publication to be withheld until this is accomplished, the list could not be issued for many years to come. The want of a key to the literature of our fishes is a deterrent to would-be students, who might otherwise feel inclined to take up the study: to such the list will be useful and an incentive. The angler desires to know more than the fisherman's names of his spoils; to him the illustrations, and through them references to literature, will be appreciated and may lead to a wider view of the subject. The interest evinced in this catalogue by officers in the Department of Fisheries indicates that the production will be welcomed by professional fishermen, and though a more popular publication would naturally be preferred by the public generally, it is hoped that the illustrations and accompanying remarks will be appreciated by those to whom the subject of fish is one of utilitarian, rather than of strictly scientific import.

As indicated by the title, the list is confined to an enumeration of the fishes known from the State of South Australia, as politically defined: it therefore includes species recorded from the Great Australian Bight. The western border of the State is the 129th meridian of East longitude, but as it would scarcely be practicable to extend this limit to the ocean, the fishes recorded from the whole of the Bight (the littoral of Western Australia excepted) have been included.

Hemmed in as South Australia is, and possessing only a southern seaboard, the marine fauna is conspicuous by the absence of tropical forms, which to a greater or lesser extent occur on the shores of other continental States. Some of the species included in the catalogue are certainly nominal only, but, on the other hand, many remain to be defined, and it is hoped that the publication of the list, imperfect though it is, may be the means of stimulating interest and thus

increasing our knowledge of the subject. Workers on the fish fauna of South Australia, present or prospective, will in the course of their reading come across species accredited to South Australia that do not appear in this catalogue. The Zoological Record, for example, for the year 1872, compiled by Dr. Günther, furnishes several such instances. In that year Klunzinger⁽¹⁾ published a paper under the title, "Zur Fischfauna von Süd-Anstralien." A glance at the localities supplied shows that the translation should have been Southern Australia, but Günther rendered it as South Australia, which has, of course, a definite and restricted meaning. All the localities given by Klunzinger are Victorian, hence the species therein listed, unless otherwise supported, are not to be included in the fauna of South Australia. Günther also used South Australia in a similar sense in his own writings, and species therefor included by others do not appear in this catalogue. Such, for example, is *Melambaphes nigroris*, which was defined in a paper bearing the title "On New Species of Fishes from Victoria, South Australia"⁽²⁾.

It is well known that many of the species named by Castelnau are ill-founded, but as the descriptions are for the most part meagre, the recognizable ones often inaccurate, and the types, if existing, not accessible, there is little hope of ascertaining the status of several such species named by this author.



Illustrating Count Castelnau's method of taxidermy.

It may be of interest to describe the method employed by Count Castelnau to preserve the larger of his specimens. One side of the fish was skinned and, the rather more than half skin, was tacked on to a piece of board, cut more or

(1) Klunzinger, Arch. f. Naturg., xxxviii, 1872, p. 17-47, pl. ii.

(2) Günther, Ann. Mag. Nat. Hist. (3), xi, 1863, p. 115.

less accurately to the shape of the specimen. The space between the skin and the board was stuffed with sawdust through holes previously cut in the board; the holes were then filled with cotton wadding to prevent the sawdust escaping. The process was usually completed by pasting a piece of newspaper over the board, thus keeping the wadding in place. A glass eye was fixed in the orbit of the show side and the specimen generously varnished. The accompanying illustration is from an example of *Tephracops zebra*, so treated and preserved, with some others, in this Museum.

The Government has assisted the publication of the catalogue, financially, and, at the instance of the Department of Fisheries and Game, asked that its scope should be extended to interest a larger number of users than would obtain if the list were restricted to purely systematic records. To this end the number of illustrations has been greatly increased. It was originally intended to supply, as far as possible, a figure of a representative species of each genus; as it now stands all species of which a useable picture could be obtained are illustrated. These illustrations will assist in arriving at an approximate disposition in the system of any specimen obtained; they must not, however, be relied upon for absolute determinations; important features, such as the nature of the teeth and squamation and certain comparative dimensions not being indicated. First choice of illustrations has been made from the published drawings by Mr. A. R. McCulloch and myself, either jointly or separately; photographs of casts made in the Museum by the formator, Mr. Robert Limb, under my supervision, and coloured by Mr. G. A. Barnes, have also been used, but the bulk of the figures are culled from illustrations which have appeared in scientific literature published in different parts of the world, the source of which will generally be found in the references to the species to which they are assigned.

To meet the requirements of the public, as represented by the Fisheries Department, short explanatory notes are appended to the entries of many of the species, especially such as are used for food.

I have also been asked to supply "common names" for the fishes; where such names exist, these are given: many fishes, however, have no such names, for some of these more or less appropriate ones have been furnished. The edible fishes have, naturally, been named by the public, but such names vary greatly in the different States, and Mr. D. G. Stead has written a pamphlet "On the need for more uniformity in the vernacular names of Australian Edible Fishes."⁽³⁾ Where known, the aboriginals' names of fishes have been furnished, and some of these, as for example "Mulloway" for the Butter-fish (*Sciaena antarctica*),

(3) Stead, Publications, Fisheries Branch, N.S.W., 1911, 12 p.

are even more commonly used than their English cognomens. The contractions "syn." and "ref." appended to some of the entries denote that further synonymy or references will be found in the publications so indicated. Slight differences in spelling names in the synonymy have not necessarily been observed; for example, separate entries are not made for *Cheilodactylus* and *Chilodactylus*. The dates supplied are, so far as it has been possible to ascertain them, those of actual publication; for example, the Report of the British Association for the year 1842 was published in 1843; references to species recorded in this volume are therefore dated 1843.

The catalogue has been reprinted, or rather duplicated, for the State Department of Fisheries and Game, with identical pagination and date of publication, the only deviation from the original being the substitution of the special title page issued with the copies printed for the Department.

One cannot, of course, study the fishes of any given area without knowing what has been done elsewhere, but for present purposes it must suffice to indicate the principal systematic works that have been published in Australasia.

The completion, in 1870, of Dr. Albert Günther's monumental work⁽⁴⁾ provided a stimulus for the preparation of local catalogues.

New Zealand. The first to appear was Captain F. W. Hutton's catalogue⁽⁵⁾ issued in 1872, followed, in 1893, by Dr. Theodore Gill's "Comparison of Antipodal Faunas"⁽⁶⁾. In 1904 Hutton produced another list⁽⁷⁾. The latest published catalogue, issued in 1907, is "A-Basic List of the Fishes of New Zealand," by Edgar R. Waite⁽⁸⁾.

Australia. Sir William Macleay's "Descriptive Catalogue of Australian Fishes"⁽⁹⁾ was published in 1880, 1881, and was closely modelled on Günther's work, but original observations and descriptions were introduced.

Tasmania. The fishes of Tasmania were included in Macleay's catalogue, above mentioned, but in 1883 they were separately listed by R. M. Johnston, under the title "General and Critical Observations on the Fishes of Tasmania"⁽¹⁰⁾, which list, as in the case of some of the other works recorded, was later revised.

New South Wales. In 1886 J. Douglas Ogilby⁽¹¹⁾ published the first catalogue restricted to the fishes of the State. In 1904 Waite issued a list under

(4) Günther, Cat. Fish. Brit. Mus., i-viii, 1859-1870.

(5) Hutton, Fishes of New Zealand: Catalogue with diagnoses of the species, 1872.

(6) Gill, Nat. Acad. Sciences, Wash., vi, 1893.

(7) Hutton, Index Faunae Novae Zealandiae, 1904.

(8) Waite, Rec. Cant. Mus., i, 1907, 1912.

(9) Macleay, Proc. Linn. Soc. N.S.Wales, v, 1880; vi, 1881; ix, 1884.

(10) Johnston, Pap. and Proc. Roy. Soc. Tasm., 1883, 1891.

(11) Ogilby, Catalogue of the Fishes of N.S.Wales with their principal synonyms, 1886.

the title "Synopsis of the Fishes of New South Wales" (12). This, in turn, is to be superseded by an "Illustrated Check-list," by Allan R. McCulloch (13), of which a first part appeared in 1919.

Victoria. The only list of Victorian fishes extant was produced by A. H. S. Lucas in 1880, under the title "A Systematic Census of Indigenous Fish, hitherto recorded from Victorian Waters" (14).

Queensland. The publication of a "Check-list of the Cephalochordates, Selachians and Fishes of Queensland" has been undertaken by Ogilby (15), but so far one part only, published in 1916, and dealing with the *Protochordata Marsipobranchii* and *Isospondyli*, has appeared. I understand it is doubtful if the state of my old colleague's health will permit him to continue the work.

South Australia. The present catalogue is the first completed list of the fishes of South Australia to be published, though one previous attempt is to be chronicled. In 1908, 1909, A. H. C. Zietz issued three parts under the title, "A Synopsis of the Fishes of South Australia" (16). The *Leptocardi*, *Cyclostomata* and portion of the *Teleostei* were included.

Western Australia. A bare list of the fishes of this State, compiled by Bernard H. Woodward, was published in 1902 (17).

General subject. Though not confined to strictly systematic records, the following publications may be mentioned:

R. A. A. Sherrin, Handbook of the Fishes of New Zealand, 1886.

J. E. Tenison Woods, Fish and Fisheries of New South Wales, 1883.

J. Douglas Ogilby, Edible Fishes and Crustaceans of New South Wales, 1893.

F. G. Affalo, A Sketch of the Natural History of Australia, 1896.

David G. Stead, Fishes of Australia, 1906.

David G. Stead, Edible Fishes of New South Wales, 1908.

T. G. Roughley, Fishes of Australia and their Technology, 1916.

The publications of scientific Societies and Institutions in many parts of the world contain articles on Australian fishes, and references to most of these will be found in the text.

ACKNOWLEDGMENTS. I am indebted to the Trustees of the Australian Museum for lending books and the beautiful drawings made, in illustration of

(12) Waite, Mem. N.S.Wales Nat. Club, No. 2, 1904.

(13) McCulloch, Aust. Zoologist, i, 1919.

(14) Lucas, Proc. Roy. Soc. Viet. (n.s.), ii, 1890.

(15) Ogilby, Mem. Queensl. Mus., v, 1916.

(16) Zietz, Trans. Roy. Soc. S. Aust., xxxii, 1908; xxxiii, 1909.

(17) Woodward, Western Australian Year Book, 1902.

Mr. McCulloch's papers, either by himself or Miss Phyllis Clarke; to the Director of the National Museum, Melbourne, for the loan of books, and to my Assistant, Mr. Herbert M. Hale, for taking the photographs of the casts of fishes in this Museum and for much general help.

INTRODUCED FISHES.

A number of exotic fishes have been introduced into South Australia; the majority are kept in private tanks and aquaria and need not be enumerated. Five species, however, have been liberated for economic purposes, and are firmly established as denizens of our fresh waters; they are:

Gold Carp (*Carassius auratus* Linn.). Asia, *via* Europe.

Tench (*Tinca tinca* Linn.). Europe.

Perch (*Perca fluviatilis* Linn.). Europe.

Brown Trout (*Salmo trutta* Linn.). Europe.

Rainbow Trout (*Salmo irideus* Gibbons). California.

All of these, excepting the Carp, were intentionally introduced into South Australia. The Trout were placed in the various reservoirs, and have thriven immensely; a Brown Trout was recently caught measuring 2 ft. 10½ in. in length. The Carp were originally introduced into Victoria, and entered our waters by way of the River Murray. I have seen hundreds of thousands of them taken from the irrigation drains and loaded into carts, but Adelaide did not receive a single fish, most of them being railed to Melbourne, where selling prices are higher than even in Adelaide. In consequence of this, the majority of our inland fishes are sent to the Victorian capital, and large numbers of marine species also, the exceptions being from such places as are within easy reach of our city.

E. R. W.

South Australian Museum,
Adelaide, 21st February, 1921.

THE FISHES OF SOUTH AUSTRALIA

KEY TO THE DESIGNATIONS OF FISH-LIKE VERTEBRATES.

- | | |
|--|---|
| a. No localized brain, no protective skull, no heart . . | ACRANIA
(Lancelets) |
| aa. Anterior end of central nervous axis developed into a brain and protected by a skull, heart present | CRANIATA
(Lampreys, Fishes and higher Vertebrates) |
| b. Nostril single, median; no mandible, no limbs or limb-girdles | CYCLOSTOMATA
(Lampreys) |
| bb. Nostrils paired; mandible, limb-girdles and limbs usually present, developed as rayed fins, gills persistent | PISCES (Fishes) |

ACRANIA (LANCELETS).

FAMILY BRANCHIOSTOMIDAE.

EPIGONICHTHYS Peters, 1876 (cultellus).

EPIGONICHTHYS BASSANUS Günther (Southern Lancelet).

Branchiostoma bassanum Günth., Voy. Aler^t, Zool., 1884, p. 31.

Heteropleuron bassanum Kirkaldy, Q.J.M.S., xxxvii (n.s.), 1895, p. 314, pl. xxxiv, fig. 6.

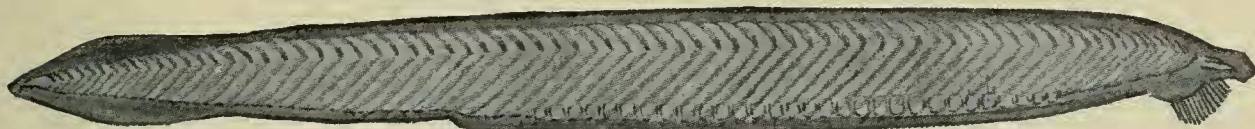


Fig. 1*. *Epigonichthys bassanus*.

This and the following species are small transparent marine animals, occurring near the shore and burrowing in the sand.

* The numbers of the illustrations are not necessarily consecutive, but represent the sequence of the species.

EPIGONICHTHYS AUSTRALIS Raff (S. Australian Lancelet).

Asymmetron australis Raff, Endeavour Res., i, 1912, p. 303, pl. xxxvii, fig. 1-7 (structure).

CRANIATA.**CLASS CYCLOSTOMATA (LAMPREYS).**

- a. A single median suproral lamina, developed from the upper arch of the annular cartilage, mouth fringes present PETROMYZONIDAE
- aa. Two distant lateral laminae developed, mouth fringes rudimentary CARAGOLIDAE

FAMILY PETROMYZONIDAE.**GEOTRIA** Gray, 1851 (australis).**GEOTRIA AUSTRALIS** Gray (Wide-mouthed Lamprey).

Geotria australis Gray, Chondropt., 1851, p. 142, pl. ii and P.Z.S., 1851, p. 239, pl. iv, fig. 3 and pl. v; Ogil., P.L.S., N.S.W., xxi, 1896, p. 422.

Geotria allportii Günth., P.Z.S., 1871, p. 675, pl. lxx.

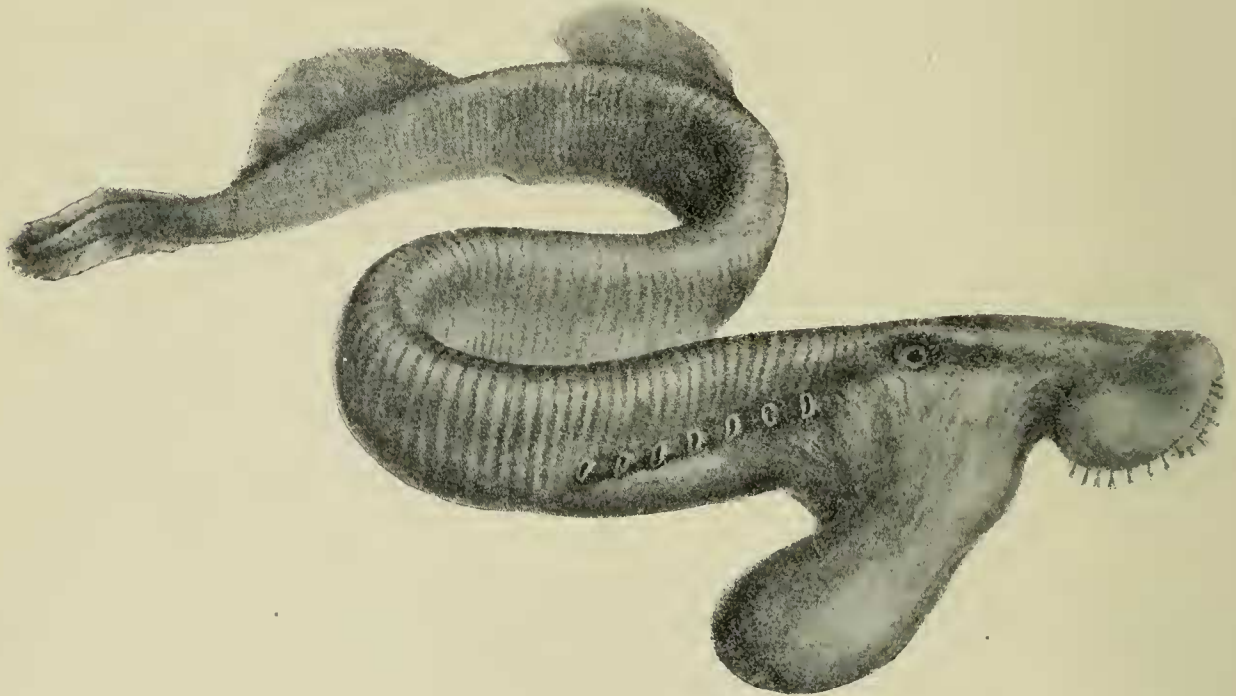


Fig. 3. *Geotria australis*.

Lampreys are eel-shaped animals which undergo a metamorphosis; in the earlier stages the eyes are rudimentary and teeth are entirely absent. When adult these parasites attach themselves to fishes and rasp off the flesh by means of the horny teeth with which the circular mouth is provided. Some examples, at least, of the Wide-mouthed Lamprey, develop a throat pouch, as illustrated.

FAMILY CARAGOLIDAE.

CARAGOLA Gray, 1851 (*lapicida*).

CARAGOLA MORDAX Richardson (Short-headed Lamprey).

Petromyzon mordax Rich., Zool. Ereb. and Terr., 1848, p. 62, pl. xxxviii, fig. 3-6.
Mordacia mordax Gray, Chondropt., 1851, p. 144, pl. i, fig. 6 and P.Z.S., 1851, p. 240, pl. iv, fig. 6 (mouth); Ogil., P.L.S., N.S.W., xxi, 1896, p. 400.

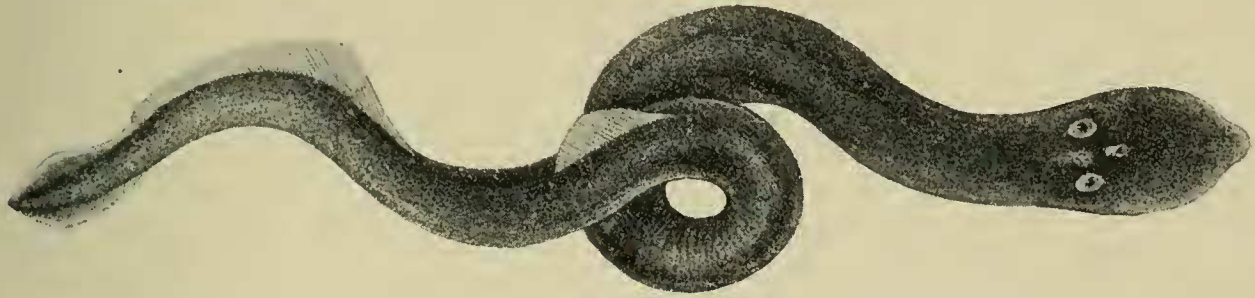


Fig. 4. *Caragola mordax*.

Before the construction of the weir this lamprey was very common in the River Torrens, which it ascended for breeding purposes; it is occasionally washed up on the ocean beaches.

CLASS PISCES (FISHES).

- a. Skeleton cartilaginous, skull without membrane bones (opercles, suborbital ring, etc.); males with paired claspers.
 - b. Gills with five to seven separate external openings ELASMOBRANCHII (Sharks and Rays)
 - bb. Gills with a single external opening HOLOCEPHALI (Elephant Fishes)
- aa. Skeleton usually bony, skull with membrane bones; males without paired claspers TELEOSTOMI (True Fishes)

SUB-CLASS ELASMOBRANCHII (SHARKS AND RAYS).

- a. Gill-openings on the sides; pectorals free from the head SELACHII (Sharks)
- aa. Gill-openings on the lower surface; pectorals attached to the head; no anal fin BATOIDEI (Rays)

ORDER SELACHII (SHARKS).**FAMILY HEXANCHIDAE.****NOTORHYNCHUS** Ayres, 1855 (maculatus).**NOTORHYNCHUS PECTOROSUS** Garman (Seven-gilled Shark).

Heptranchus indicus Macdon. & Barr., P.Z.S., 1868, p. 371, pl. xxxiii.

Notidanus indicus Hutt., Cat. Fish. N.Z., 1872, p. 79; McCoy, Prod. Zool. Vict.,
dec. v, 1880, pl. xliii, fig. 2.

Heptranchias pectorosus Garm., Bull. Essex Inst., xvi, 1884, p. 56.

Heptranchias haswelli Ogil., P.L.S., N.S.W., xxii, 1898, p. 62.

Notorhynchus indicus Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 5.

Notorhynchus pectorosus Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 20
(syn.).

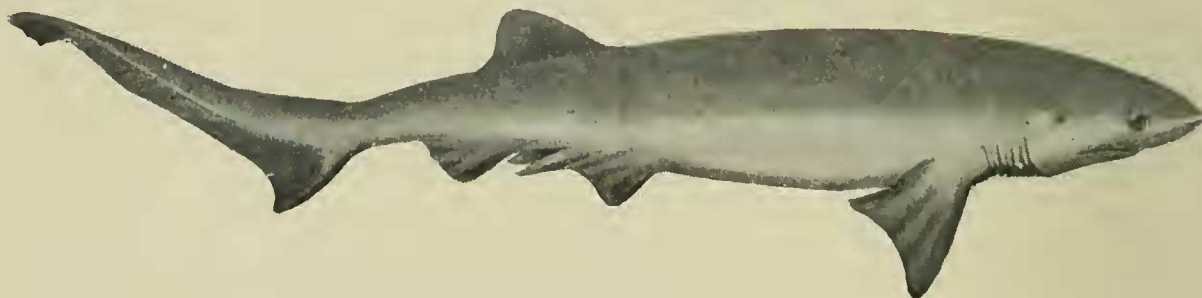


Fig. 5. *Notorhynchus pectorosus*.

Most sharks and rays have five gill slits; this species and some of its allies have seven slits, also a single fin only on the back. The teeth likewise are most characteristic, and are dissimilar in each jaw.

FAMILY HETERODONTIDAE.**HETERODONTUS** Blainville, 1816 (philippi).**HETERODONTUS PHILIPPI** Bloch & Schneider (Port Jackson Shark).

Squalus philippi Bl. & Schn., Syst. Ichth., 1801, p. 134.

Heterodontus philippi Blainv., Bull. Soc. Phil., 1816, p. 121; McCoy, Prod. Zool.
Vict., dec. xii, 1886, pl. cxiii.

Cestracion philippi Less., Voy. Coquille, Zool., ii, 1830, p. 97, pl. ii; Waite, J.L.S.,
xxv, 1896, p. 325, pl. xii, fig. 1, 2 (egg); Saville Kent, Nat. in Aust., 1897,
p. 192, fig.

Centracion philippi Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 182 (ref.).

Sometimes called a living fossil, existing forms being but little different from species living in Palaeozoic ages. The crushing teeth are arranged obliquely and

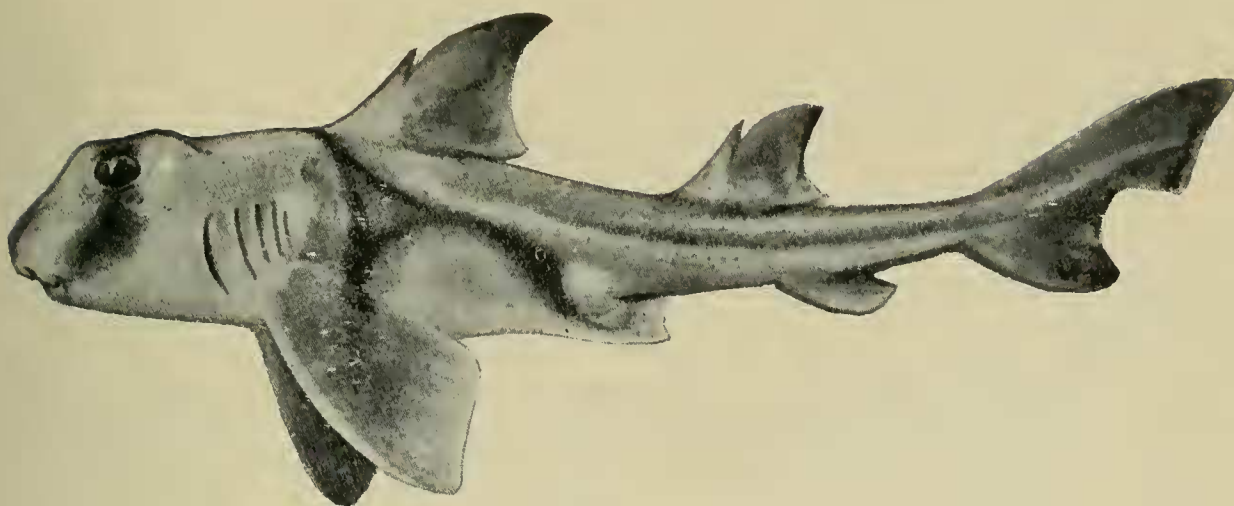


Fig. 6. *Heterodontus philippi*.

are often stained with colour from the spines of sea urchins: the egg-cases are formed of a double spiral.

FAMILY CARCHARINIDAE.

CARCHARINUS Blainville, 1816 (*commersoni*).

CARCHARINUS GANGETICUS Müller & Henle (Sea Shark).

Carcharias gangeticus Müll. & Henle, Plagiost., 1838, p. 39, pl. xiii; Day, Fish. India, 1878, p. 715, pl. clxxxvii, fig. 1.

Carcharinus gangeticus Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 139.

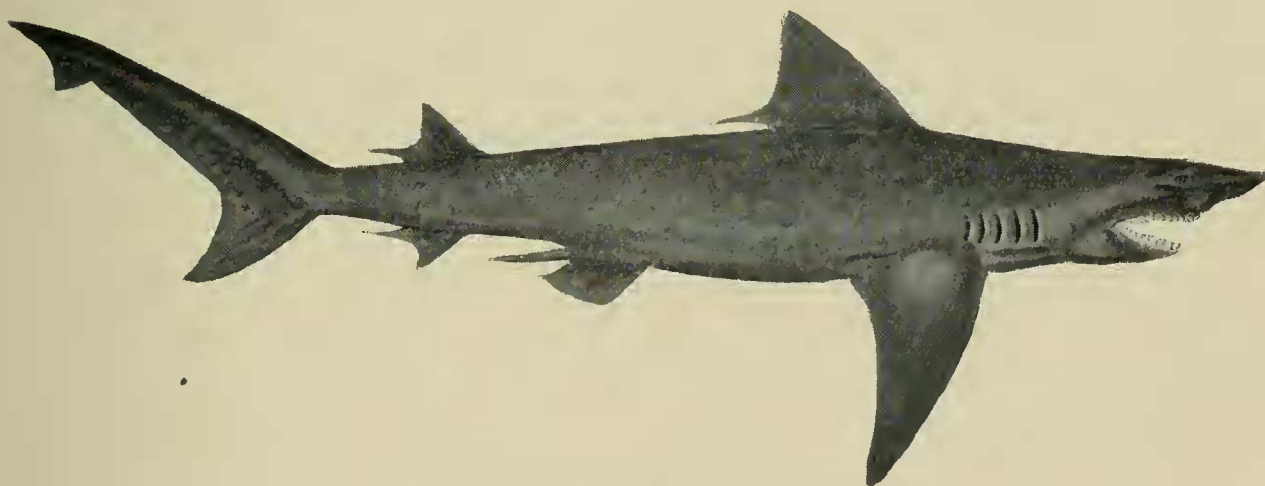


Fig. 7. *Carcharinus gangeticus*.

Though known from Australian seas, this species is much more common in Indian waters, where it attains to nine feet in length. It is one of the most ferocious of Indian sharks and frequently attacks bathers, even in the Hoogly at Calcutta.

CARCHARINUS BRACHYURUS Günther (Whaler).

Carcharias brachyurus Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 369; Waite, Rec. Aust. Mus., vi, 1906, p. 226, pl. xxxix.

Carcharias macrurus Rams. & Ogil., P.L.S., N.S.W. (2) ii, 1888, p. 163.



Fig. 8. *Carcharinus brachyurus*.

The name "Whaler" is said to have been bestowed by the whale fishers of Twofold Bay, N.S.W., from the circumstance that it is this shark that usually appears during the whaling operations there carried on.

HYPOPRION Müller & Henle, 1838 (*macloti*).**HYPOPRION HEMIODON** Müller & Henle.

Carcharias hemiodon Müll. & Henle, Plagiost., 1838, p. 35, pl. xix (teeth); A. Zietz, T.R.S., S.A., x, 1888, p. 303.

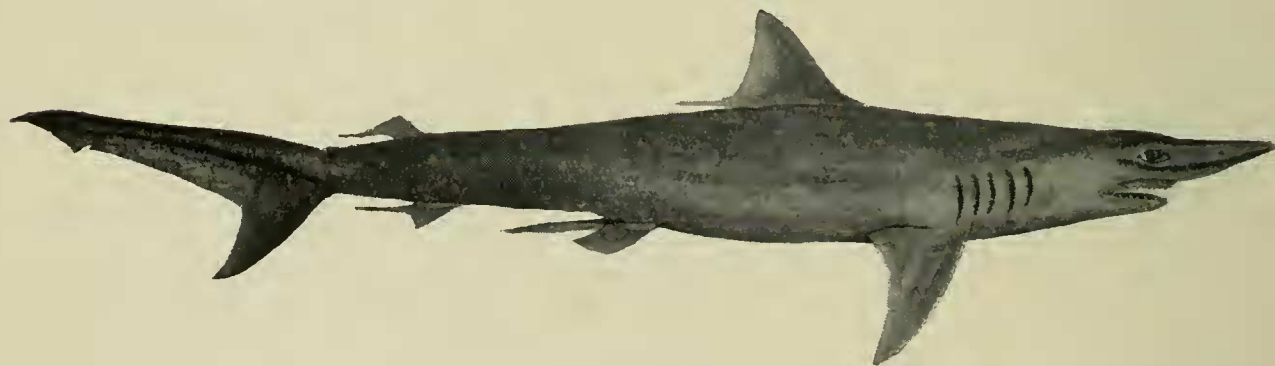


Fig. 9. *Hypoprion macloti*.

The figure is of *Hypoprion macloti*, an allied species, the type of the genus.

PRIONACE Cantor, 1849 (*glauca*).**PRIONACE GLAUCUM** Linnaeus (Blue Shark).

Squalus glaucus, Linn., Syst. Nat. (ed. x), 1758, p. 235.

Prionace glauca Jord. & Everm., Bull. 47, U.S. Nat. Mus., i, 1896, p. 33 and iv, 1900, pl. iv, fig. 16.

Galeus glaucus Garni., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 145, pl. iii, fig. 1-3 (syn.).

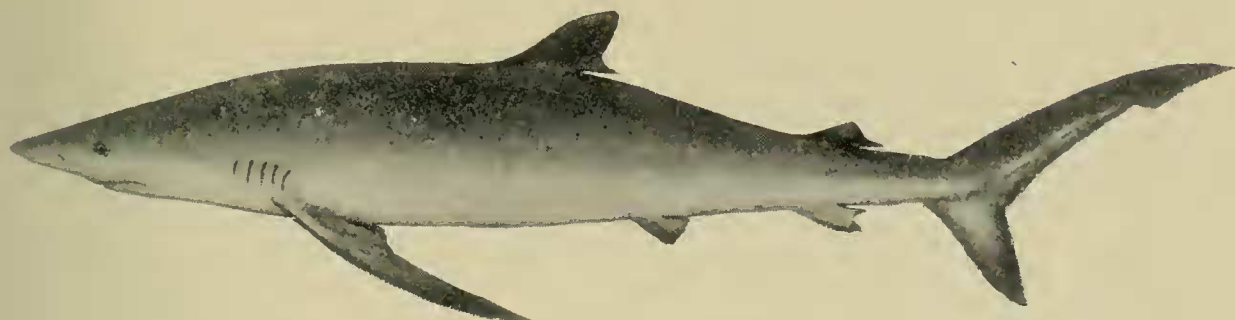


Fig. 10. *Prionace glaucum*.

Not common in Southern Australian waters, but examples from South Australia are preserved in the Museum.

GALEOCERDO Müller & Henle, 1837 (arcticus).

GALEOCERDO ARCTICUS Faber (Tiger Shark).

Squalus arcticus Faber, Fischer Islands, 1829, p. 17.

Galeocerdo arcticus Müll. & Henle, Arch. f. Naturg., iii, 1837, p. 308.

Galeocerdo tigrinus and *G. arcticus* Müll. & Henle, Plagiost., 1837, p. 59, 60, pl. xxiii, xxiv.

Galeocerdo rayneri Macdon. & Barr., P.Z.S., 1868, p. 368, pl. xxxii; Day, Fish. India, 1878, p. 718, pl. clxxxvii, fig. 3.

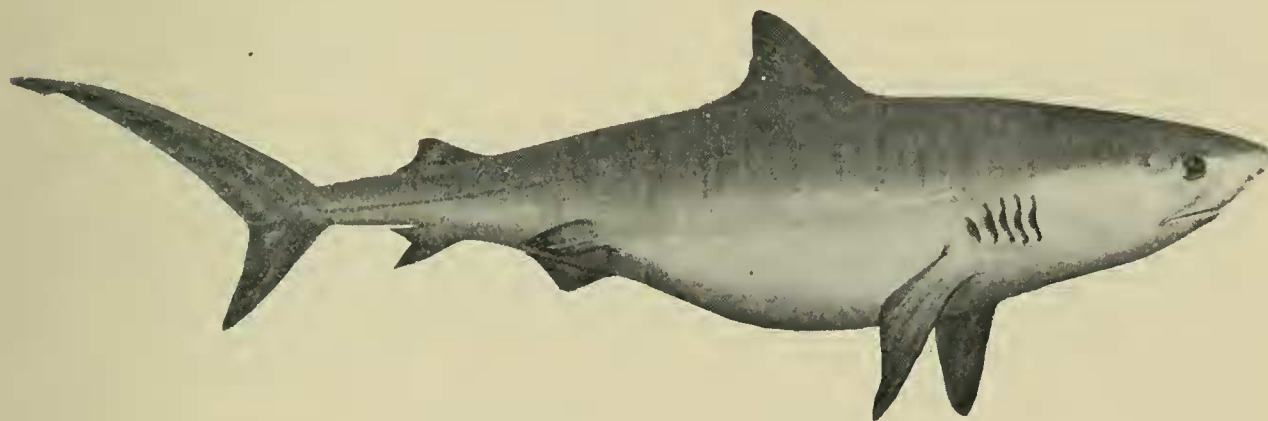


Fig. 11. *Galeocerdo arcticus*.

Attains to a length of sixteen feet, and is said to be "the most cunning and ferocious of all the scourges of the sea."

GALEUS Rafinesque, 1810 (galeus).

GALEUS AUSTRALIS Macleay (School Shark).

Galeus australis, Macle., P.L.S., N.S.W., vi, 1881, p. 354; McCoy, Prod. Zool. Vict., dec. vii, 1882, pl. lxiv, fig. 2; Waite, Rec. Cant. Mus., i, 1909, p. 139, pl. xv (young).

Galeorhinus australis Hutt., Index Faunae N.Z., 1904, p. 54.

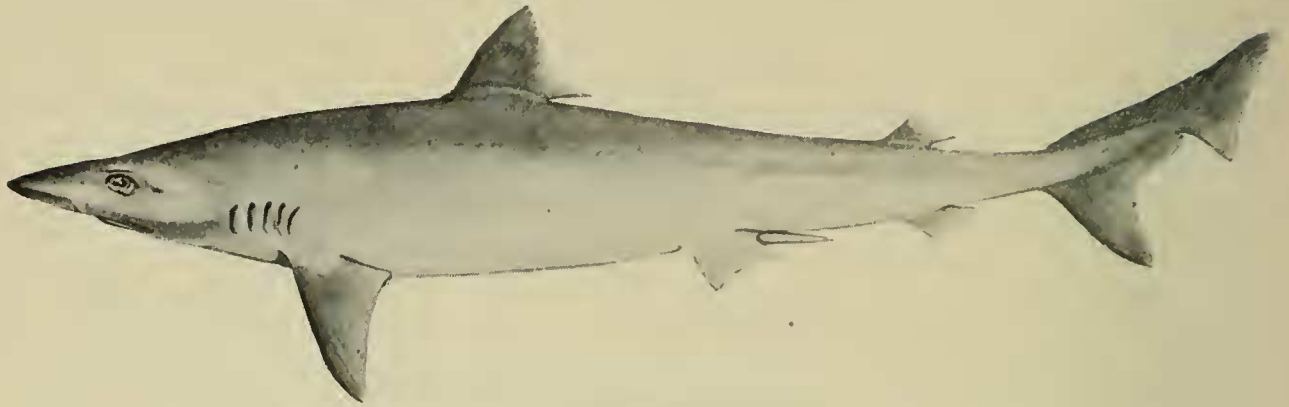


Fig. 12. *Galeus australis*.

A very common and prolific species, as many as fifty living young being produced, which accompany the mother for some time after birth.

FAMILY MUSTELIDAE.

MUSTELUS Linck, 1790 (*mustelus*).

MUSTELUS ANTARCTICUS Günther (*Gummy or Sweet William*).

Mustelus antarcticus Günth., Cat Fish. Brit. Mus., viii, 1870, p. 387; Parker, T.N.Z. Inst., xv, 1883, p. 219, pl. xxx (embryos); McCoy, Prod. Zool. Viet., dec. ix, 1884, pl. lxxxvii; McCull., Rec. Aust. Mus., vii, 1909, p. 315, pl. xe, fig. 3.

Galeus antarcticus Waite, Rec. Aust. Mus., iv, 1902, p. 175, fig. 19 (fœtus and shell-gland).



Fig. 13. *Mustelus antarcticus*.

The young are produced alive, each in a separate compartment of the uterus, but there is no vascular connection between the fœtus and the mother, unlike the remarkable condition occurring in one of the northern species of the genus.

FAMILY SPHYRNIDAE.

SPHYRNA Rafinesque, 1810 (*zygaena*).

SPHYRNA ZYGAENA Linnaeus (*Hammer-headed Shark*).

Squalus zygaena Linn., Syst. Nat. (ed. x), 1758, p. 234.

Zygaena lewini Lord (in Griffith), Anim. King., x, 1834, p. 640, pl. 1.

Zygaena malleus Day, Fish. India, 1878, p. 719, pl. clxxxvi, fig. 4; McCoy, Prod. Zool. Viet., dec. vi, 1881, pl. lvi, fig. 1.

Cestraeion zygaena Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 157, pl. i, fig. 1-3 (ref.).

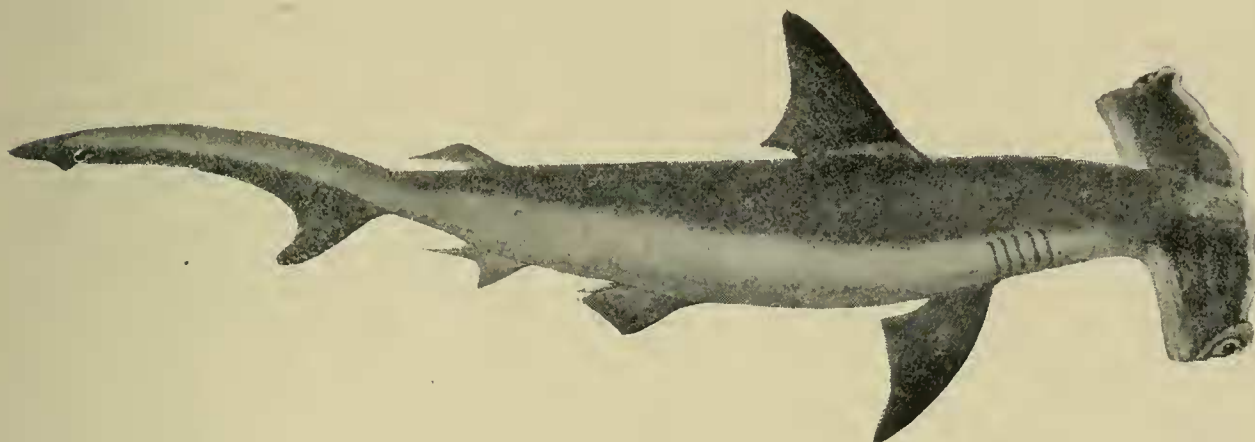


Fig. 14. *Sphyrna zygaena*.

Several species of Hammer-heads are known, but in none is the "hammer" so pronounced as in this one. The Shark grows to a length of fifteen feet. As many as thirty-seven embryos have been taken from a female eleven feet in length.

FAMILY ORECTOLOBIDAE.

ORECTOLOBUS Bonaparte, 1837 (*barbatus*).

ORECTOLOBUS MACULATUS Bonnaterre (Common Carpet Shark).

Squalus maculatus Bonn., Encycl. Meth., Ichth., 1788, p. 8.

Squalus barbatus Gmel., Syst. Nat., i, 1789, p. 1493.

Crossorhinus barbatus Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 414; McCoy, Prod. Zool. Viet., dec. v, 1880, pl. xliii, fig. 1.

Orectolobus maculatus Ogil. & McCull., P.R.S., N.S.W., xlii, 1908, p. 273, pl. xlii, fig. 2.

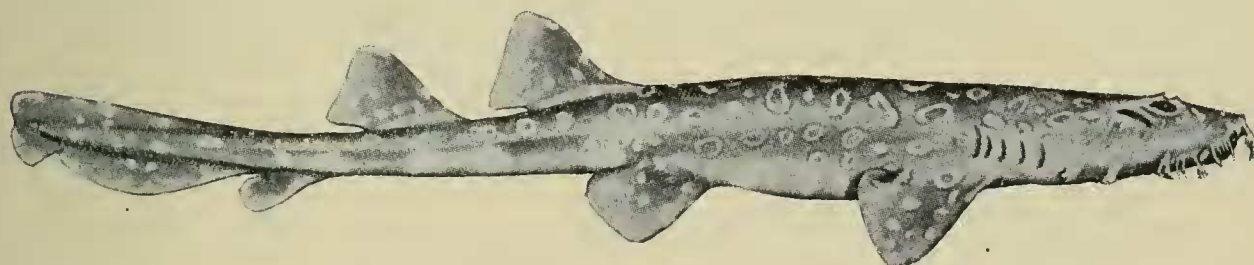


Fig. 15. *Orectolobus maculatus*.

The Carpet Sharks, called Wobbegongs in the Eastern States of Australia, are sluggish bottom-haunting forms, where their remarkable colour patterns doubtless harmonize well with their varied surroundings.

ORECTOLOBUS DEVISI Ogilby (Banded Carpet Shark).

Crossorhinus barbatus McCoy, Prod. Zool. Viet., dec. v, 1880, pl. xliii, fig. 1 (not Gmel.).

Crossorhinus ornatus De Vis, P.L.S., N.S.W., viii, 1883, p. 289 (not Bonap.).

Orectolobus ornatus Regan, P.Z.S., 1908, p. 356, pl. xi, fig. 2 (young); Ogil. & McCull., P.R.S., N.S.W., xlii, 1909, p. 276, pl. xlii, fig. 1.

Orectolobus devisi Ogil., Mem. Qld. Mus., v, 1916, p. 181.



Fig. 16. *Orectolobus devisi*.

The illustration of this beautiful species is from the coloured cast of a specimen taken in St. Vincent Gulf: it measures six and a half feet in length.

ORECTOLOBUS TENTACULATUS Peters (Sombre Carpet Shark).

Crossorhinus tentaculatus Peters, Mon. Akad. Wiss. Berl., 1864, p. 123.

Orectolobus tentaculatus Regan, P.Z.S., ii, 1908, p. 357, pl. xii, fig. 2; Ogil. & McCull., P.R.S., N.S.W., xlii, 1908, p. 278.

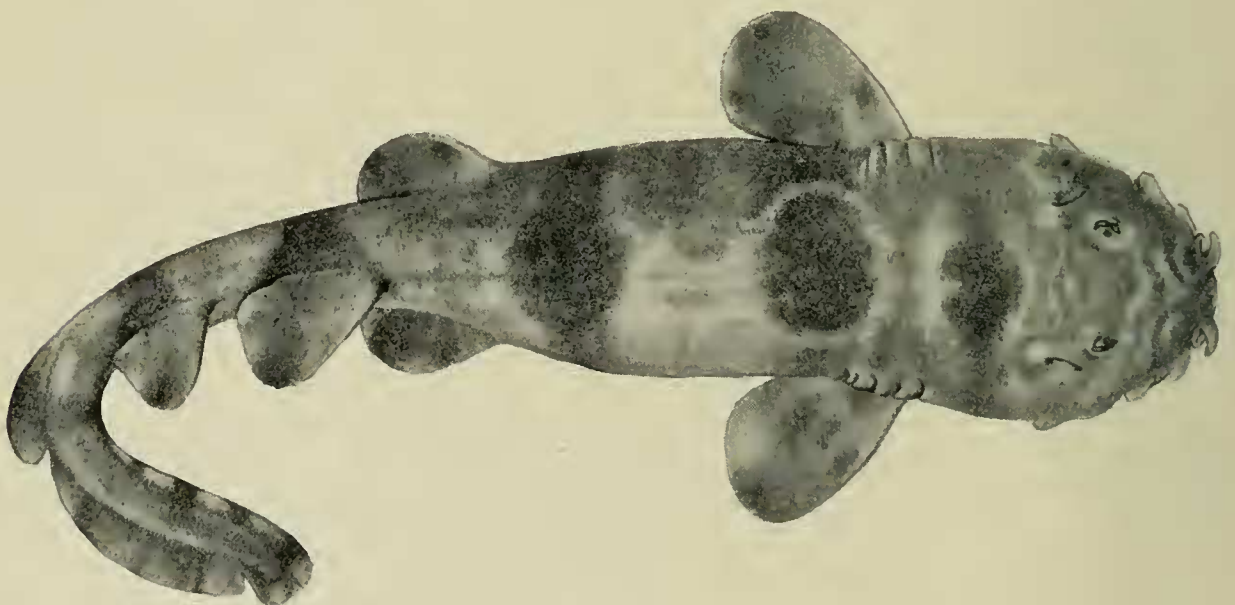


Fig. 17. *Orectolobus tentaculatus*.

This is the least ornate of our three species; the illustration represents a young example, in which the dark markings are more conspicuous than in the adults.

PARASCYLLIUM Gill, 1861 (variolum).**PARASCYLLIUM VARIOLATUM Duméril (Cat Shark).**

Hemiscyllium variolatum Dum., Rev. & Mag. Zool., 1853, p. 121, pl. iii, fig. 1.

Parascyllium nuchale McCoy, Ann. Mag. Nat. Hist. (4), xiii, 1874, p. 15, pl. ii.

Parascyllium variolatum Gill, Ann. N.Y. Lyceum, vii, 1861, p. 413; McCull., Endeavour Res., i, 1911, p. 7, pl. ii, fig. 1.



Fig. 18. *Parascyllium variolatum*.

This and allied sharks are small species, seldom attaining to more than three feet in length; they are also known as Dogfishes, but the name "Cat Shark" is useful, as it serves to distinguish them from the "spiny dogs" of the Family Squalidae. The egg-cases of the Cat Sharks resemble those of the rays, familiarly known as "skate-barrows," but are of more elongate shape.

PARASCYLLIUM FERRUGINEUM McCulloch (Rusty Cat Shark).

Parascyllium ferrugineum McCull., Endeavour Res., i, 1911, p. 7, pl. ii, fig. 2, and text fig. 2; Waite & McCull., T.R.S., S.A., xxxix, 1915, p. 459.



Fig. 19. *Parascyllium ferrugineum*.

Two specimens only are so far known, one from outside Port Philip, Victoria, the other from the Great Australian Bight.

FAMILY SCYLLIORHINIDAE.

SCYLLIORHINUS Blainville, 1816 (canicula).**SCYLLIORHINUS VINCENTI A. Zietz (Gulf Cat Shark).**

Seyllium vincenti Zietz, T.R.S., S.A., xxxii, 1908, p. 287.

Scylliorhinus vincenti McCull., Endeavour Res., i, 1911, p. 4, pl. ii, fig. 3 and text fig. 1.



Fig. 20. *Scylliorhinus vincenti*.

A local species, occurring in shallow water and occasionally cast on to the ocean beaches after violent storms.

HALAELURUS Gill, 1861 (*burgeri*).

HALAELURUS ANALIS Ogilby (Spotted Cat Shark).

Scyllium maculatum Rams., P.L.S., N.S.W., v, 1880, p. 97 (not Günth.).

Scyllium anale Ogil., P.L.S., N.S.W., x, 1886, p. 445.

Catulus analis Waite, Mem. Aust. Mus., iv, 1899, p. 31, pl. ii, fig. 1 and Rec. Aust. Mus., vi, 1905, p. 228, pl. xl and fig. 38 (egg).

Halaclurus analis Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 85.

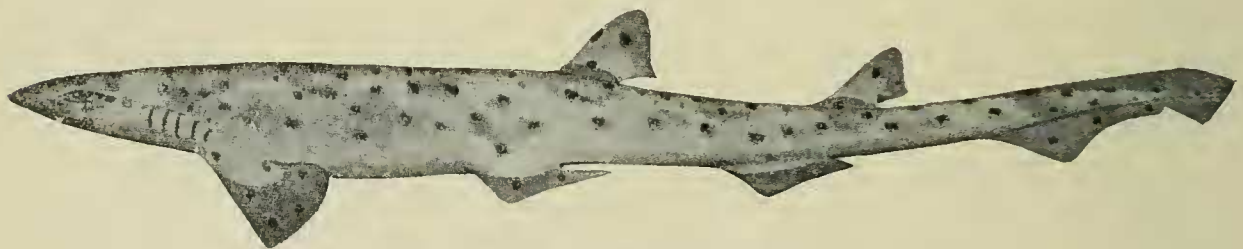


Fig. 21. *Halaclurus analis*.

Occurs in deeper water than the foregoing species, to which fact it doubtless owes its much more extended distribution.

FAMILY ALOPIIDAE.

ALOPIAS Rafinesque, 1810 (*macrourus* = *vulpinus*).

ALOPIAS VULPINUS Bonnaterre (Thresher).

Squalus vulpinus Bonn., Encycl. Meth., Ichth., 1788, p. 9, pl. lxxxv, fig. 349.

Alopias vulpes Day, Fish. Gt. Brit. and Irel., ii, 1884, p. 300, pl. clvii.

Alopecias vulpes McCoy, Prod. Zool. Viet., dec. ix, 1884, pl. lxxxviii.

Vulpecula marina Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 30, pl. vii, fig. 1-3 (syn.).

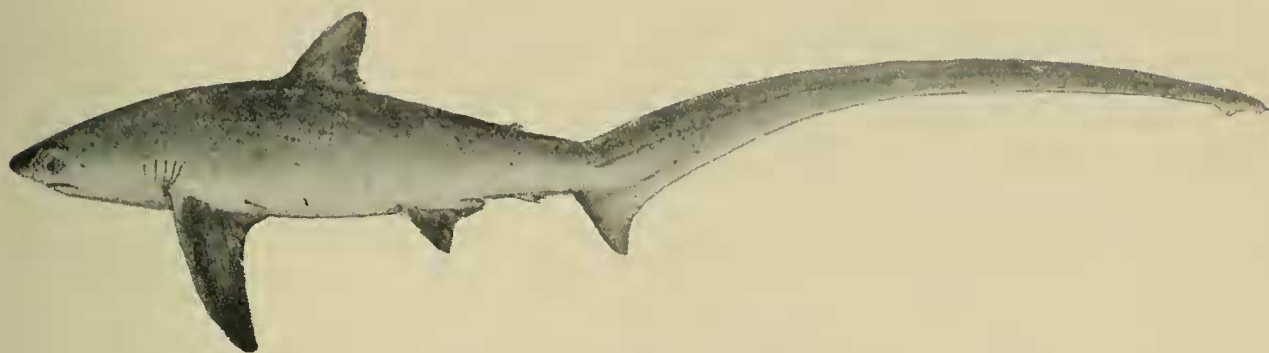


Fig. 22. *Alopias vulpinus*.

The long tail is employed to thresh the surface of the water around a school of fish so as to cause them to huddle together, in which frightened condition they fall an easy prey to the shark.

FAMILY CARCHARIIDAE.

CARCHARIAS Rafinesque, 1810 (taurus).

CARCHARIAS ARENARIUS Ogilby (Grey Nurse).

Odontaspis taurus McCoy, Prod. Zool. Viet., dec. vii, 1882, pl. lxiv, fig. 1 (not Rafin.).

Carcharias arenarius Ogil., Ann. Qld. Mus., x, 1911, p. 37.

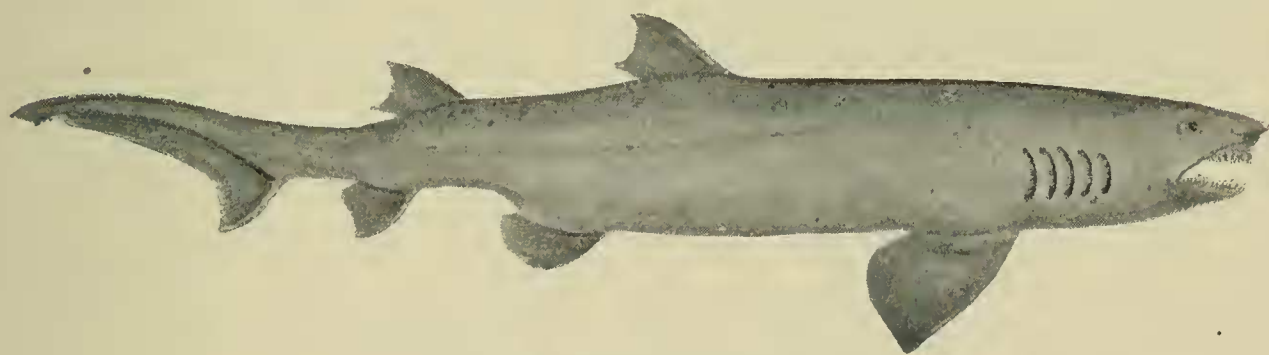


Fig. 23. *Carcharias arenarius*.

Fairly common in our waters, but apparently more so in Victoria, where it devours large quantities of edible fish and is a great terror to bathers.

CARCHARIAS TRICUSPIDATUS Day (Blue Nurse).

Odontaspis americanus Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 392.

Carcharias triacuspoidatus Day, Fish. India, 1878, p. 713, pl. clxxxvi, fig. 1.

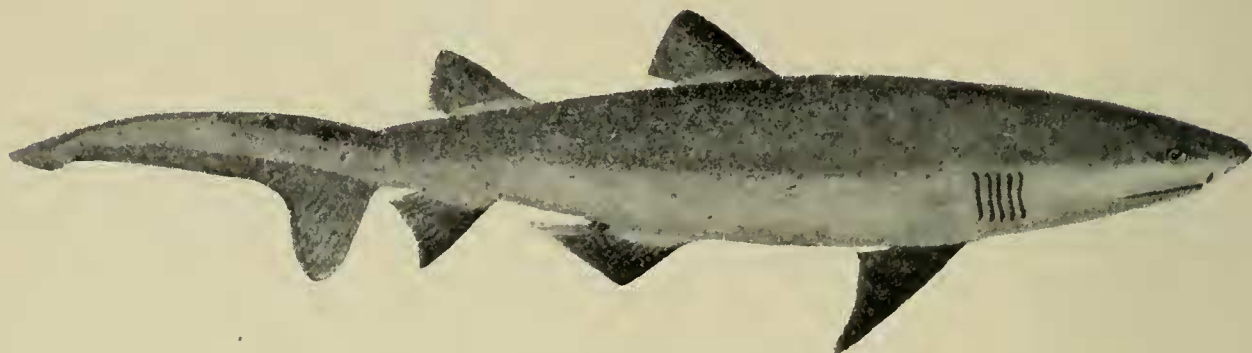


Fig. 24. *Carcharias triacuspoidatus*.

Far from common here, but occurs plentifully in Indian seas, where it attains a length of at least twenty feet.

TRIAKIS Müller & Henle, 1838 (scyllium).

TRIAKIS SCYLLIUM Müller & Henle.

Triakis scyllium Müll. & Henle, Plagiost., 1838, p. 63, pl. xxvi; Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 166 (ref.).

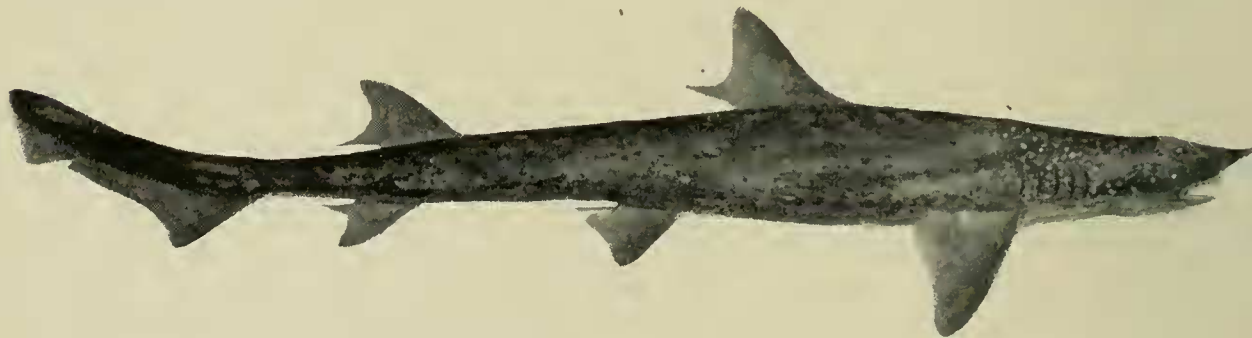


Fig. 25. *Triakis scyllium*.

This species is included on the evidence of a single specimen taken from the Semaphore Jetty in St. Vincent Gulf. It was originally described from Japan, and occurs also in the Indian Ocean.

FAMILY MITSUKURINIDAE.

MITSUKURINA Jordan, 1898 (owstoni).

MITSUKURINA OWSTONI Jordan (Elphin Shark).

Mitsukurina owstoni Jord., Proc. Cal. Acad. Sci. (ser. 3), i, 1898, p. 200, pl. xi, xii; A. Zietz, T.R.S., S.A., xxxii, 1908, p. 291.

?*Scapanorhynchus jordanii* Huss., Bull. Am. Mus., xxvi, 1909, p. 257, pl. xlv. and text figs.

?*Scapanorhynchus dofleini* Engelh., Zool. Anz., xxxix, 1912, p. 644.



Fig. 26. *Mitsukurina owstoni*.

The size of the spiracle is doubtless variable and can scarcely be regarded as a specific character; its small size in the South Australian example accords with the description of *M. dofleini*. This specimen, the only one recorded from Australian waters, was caught at Goolwa within the River Murray mouth, in a seven-inch gill-net.

FAMILY ISURIDAE.

ISURUS Rafinesque, 1810 (oxyrhynchus).

ISURUS GLAUCUS Müller & Henle (Blue Pointer).

Oxyrhina glauca Müll. & Henle, Plagiosi., 1838, p. 69, pl. xxix.

Lamna spallanzanii Day, Fish. India, 1878, p. 722, pl. clxxxvi, fig. 2.

Isurus glaucus Garm., Mem. Mns. Comp. Zool., xxxvi, 1913, p. 38 (ref.).

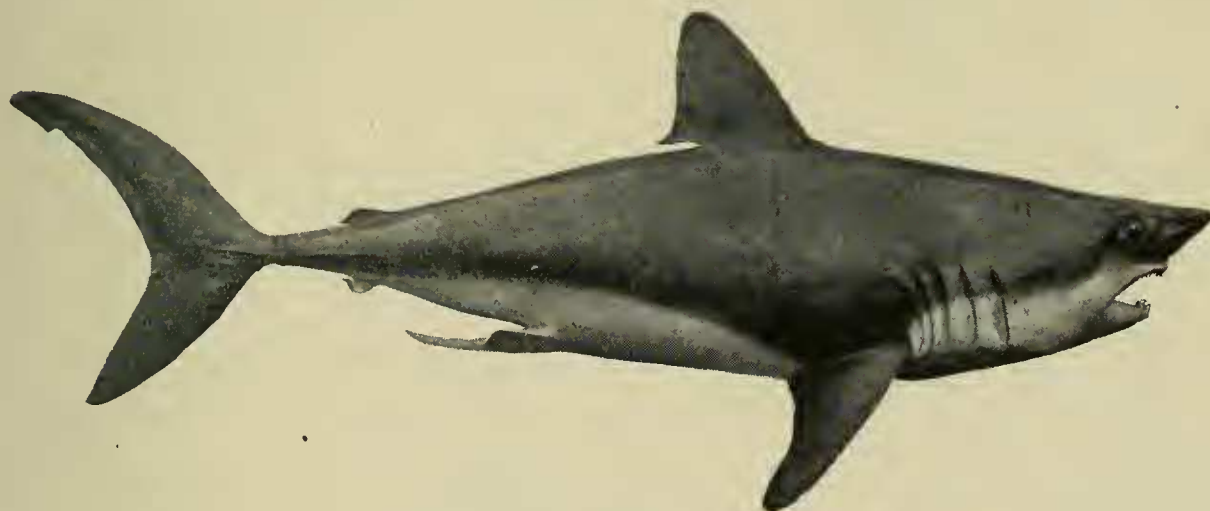


Fig. 27. *Isurus glaucus*.

Not to be confounded with the Blue Shark, which has small gill-slits and a very unequally-lobed tail.

CARCHARODON Müller & Henle, 1838 (rondeletii = carcharias).

CARCHARODON CARCHARIAS Linnaeus (White Pointer).

Squalus carcharias Linn., Syst. Nat. (ed. x), 1758, p. 235.

Carcharodon rondeletii Müll. & Henle, Mag. Nat. Hist. (2), ii, 1838, p. 37 and Plagiost., 1838, p. 70; McCoy, Prod. Zool. Viet., dec. viii, 1883, pl. lxxiv.

Carcharodon carcharias Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 32, pl. v, fig. 5-9 (syn.).

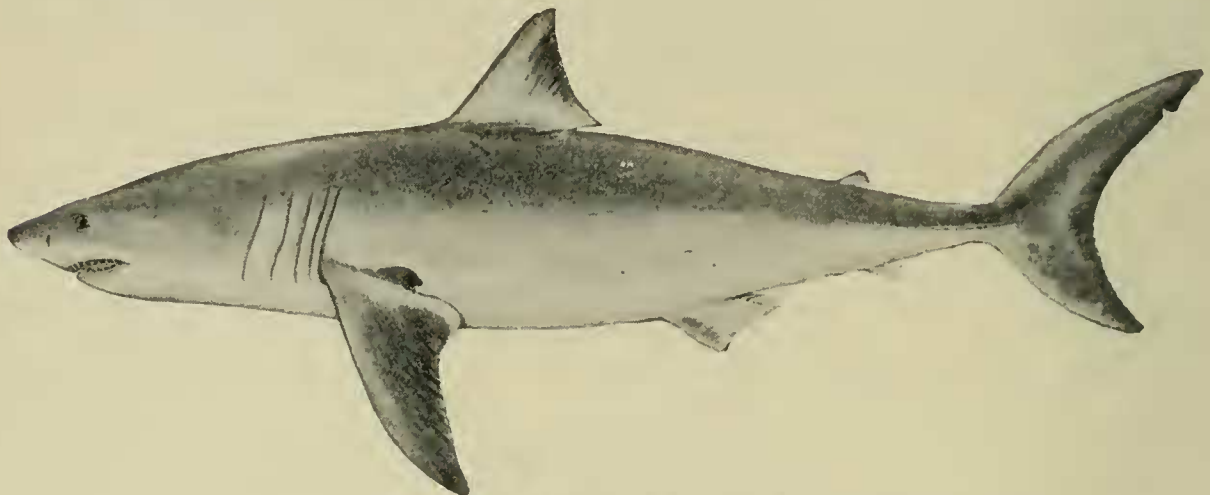


Fig. 28. *Carcharodon carcharias*.

The great Man-eating Shark; found in all warm seas, its distribution girdling the globe. It attains to between thirty-five and forty feet in length. Teeth of but recently extinct allies, dredged from the mid-Pacific, indicate that these huge sharks were quite ninety feet in length, or as long as the largest living whales.

FAMILY CETORHINIDAE.

CETORHINUS Blainville, 1816 (*gunneri* = *maximus*).

CETORHINUS MAXIMUS Gunner (Basking Shark).

Squalus maximus Gumm., Trondhj. Selsk. Skrift., iii, 1765, p. 33, pl. ii.

Selache maxima Cuv., Règ. Anim., ii, 1817, p. 129; Day, Fish. Gt. Brit. and Irel., ii, 1884, p. 303, pl. clviii, fig. 1.

Cetorhinus maximus Gerv., C.R. Acad. Sci. Paris, lxxxii, 1876, pl. cxxxviii; McCoy, Prod. Zool. Viet., dec. xi, 1885, pl. civ; Jord. & Ever., Bull. 47, U.S. Nat. Mus., i, 1896, p. 51 and iv, 1900, pl. vii, fig. 23; Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 39 (syn.).

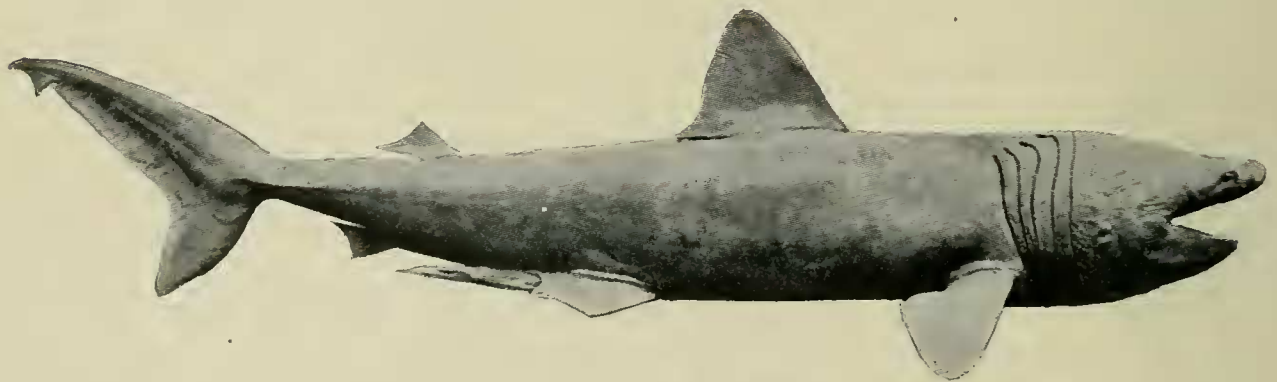


Fig. 29. *Cetorhinus maximus*.

The cast specimen in the S.A. Museum, of which the illustration is a photograph, is over twenty-five feet in length; the species is said to attain to nearly forty feet. The gill-slits extend from the top of the head to the throat, and the gill-rakers act as do the blades of baleen in the whalebone whales, straining from the water the small animals upon which they similarly feed.

FAMILY SQUALIDAE.

SQUALUS Linnaeus, 1758 (acanthias).

SQUALUS FERNANDINUS Molina (Spiny Dogfish).

Squalus fernandinus Moll., Saggio sulla storia Nat. Chili, 1782, p. 229; Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 195 (syn.).

Acanthias blainvillii and *A. megalops* Macl., P.L.S., N.S.W., vi, 1881, p. 367.

Squalus megalops Waite, Rec. Aust. Mus., iv, 1901, p. 33, pl. iv, fig. 2 (foetus).

Acanthias vulgaris McCoy, Prod. Zool. Vict., dec. viii, 1883, pl. lxxv (not Risso).

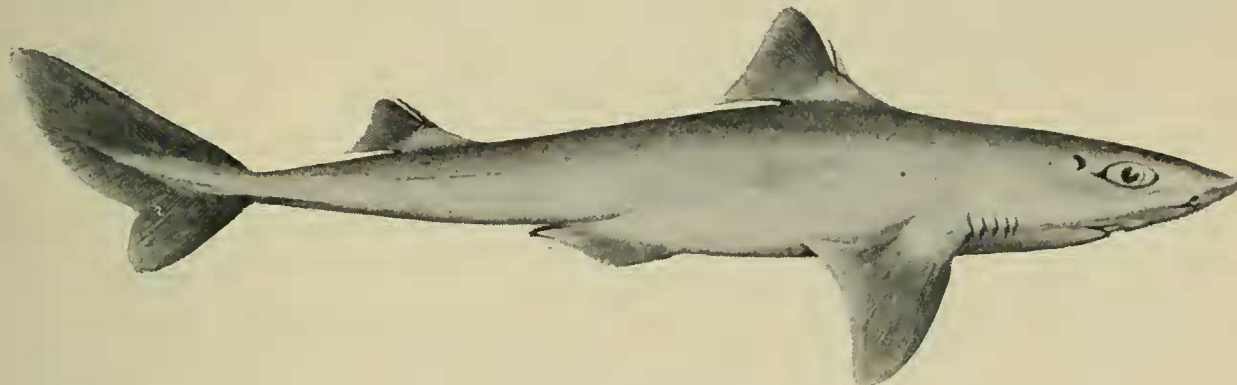


Fig. 30. *Squalus fernandinus*.

The young are born alive, and to provide against laceration of the membranes of the mother by the sharp spines in front of the dorsal fins, each is, before birth, covered with a little knob.

The sharks of the Squalidae and following Families have no anal fin.

ACANTHIDIUM Lowe, 1839 (pusillum).

ACANTHIDIUM QUADRISPINOSUM McCulloch (Long-snouted Dogfish).

Acanthidium quadrispinosum McCull., Endeavour Res., iii, 1915, p. 100, pl. xiv, fig. 5-8.



Fig. 31. *Acanthidium quadrispinosum*.

Found in deep water in the Great Australian Bight and off Victoria.

OXYNOTUS Rafinesque, 1910 (*centrina*).**OXYNOTUS BRUNIENSIS** Ogilby (Rough Shark).

Centrina salviana Hutt., T.N.Z. Inst., xxii, 1890, p. 276 (not Risso).

Centrina bruniensis Ogil., Rec. Aust. Mus., ii, 1893, p. 62.

Oxynotus bruniensis Waite, Rec. Cant. Mus., i, 1907, p. 8; McCull., Endeavour Res., ii, 1914, p. 80, pl. xiii.

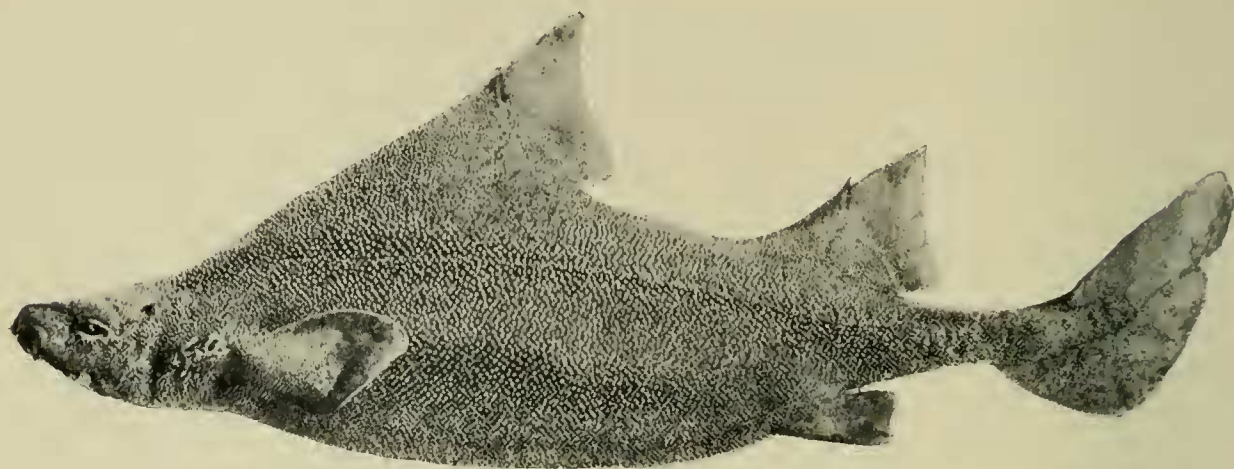


Fig. 32. *Oxynotus bruniensis*.

A small ground shark with high triangular body and rough scales, each having five cusps.

FAMILY SCYMNORHINIDAE.

SCYMNORHINUS Bonaparte, 1846 (*lichia* = *lichia*).**SCYMNORHINUS LICHA** Bonnaterre.

Squalus licha Bonn., Encycl. Meth., Ichth., 1788, p. 12.

Dalatius lichia Gray, Chondropt., 1851, p. 75.

Scymnorhinus licha Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 236 (syn.); McCull., Endeavour Res., ii, 1914, p. 81, pl. xiv, fig. 1 and text fig. 1.

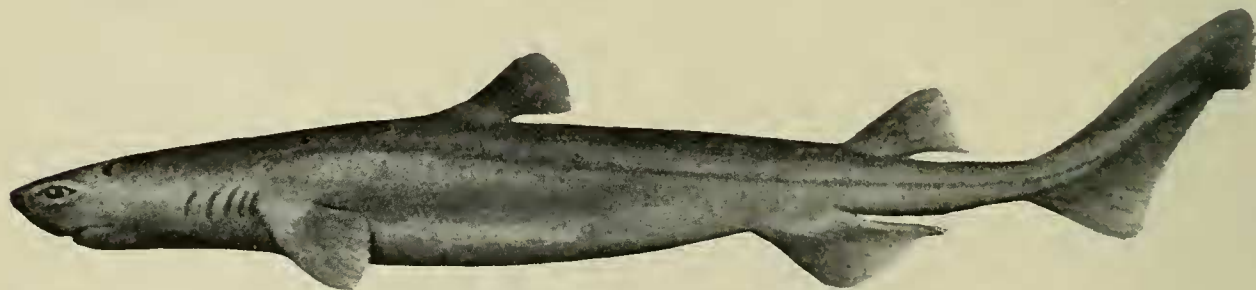


Fig. 33. *Scymnorhinus licha*.

This and the foregoing species (*Oxynotus bruniensis*) occur in the Great Australian Bight, also in New Zealand waters.

FAMILY PRISTIOPHORIDAE.

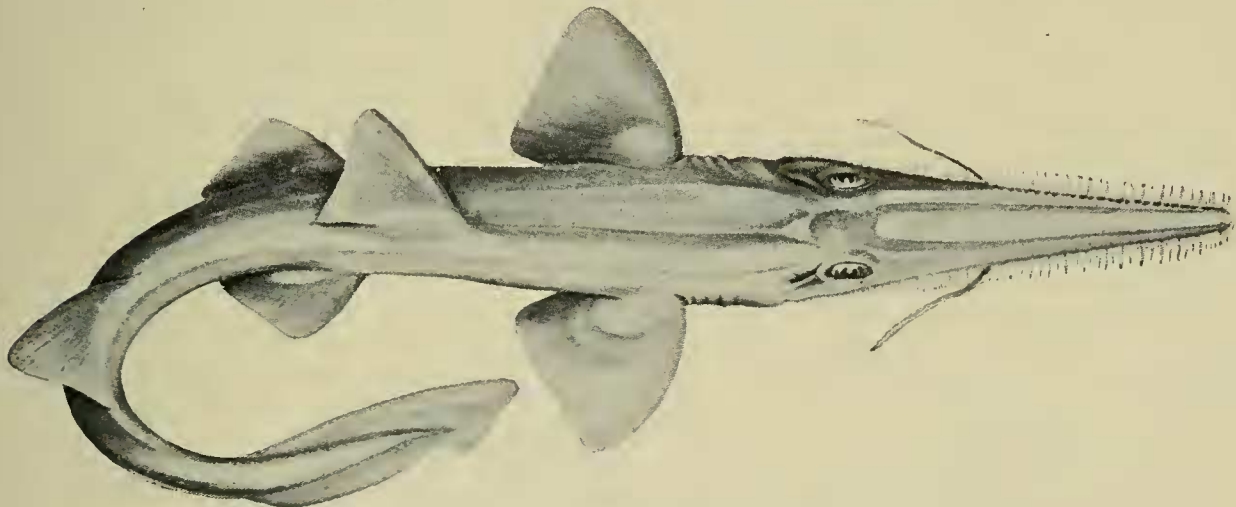
PRISTIOPHORUS Müller & Henle, 1837 (*cirratus*).**PRISTIOPHORUS CIRRATUS** Latham (Saw Shark).

Pristis cirratus Lath., T.L.S., ii, 1794, p. 281, pl. xxvi, fig. 5 (saw) and xxvii.
Pristiophorus cirratus Müll. & Henle, Arch. f. Naturg., iii, 1837, and Plagiost., 1838, p. 98.

The little saw sharks, of which we have two species, are not to be confounded with the sawfishes (*Pristis*), the latter being rays, not sharks, and not, so far, recorded from South Australia.

PRISTIOPHORUS NUDIPINNIS Günther (Saw Shark).

Pristiophorus nudipinnis Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 432; McCoy, Prod. Zool. Viet., dec. vi, 1881, pl. lvi, fig. 2; McCull., Endeavour Res., i, 1911, p. 10, pl. i, fig. 2.

Fig. 35. *Pristiophorus nudipinnis*.

The teeth in the saw are not developed at the expense of the true teeth, which arm the mouth. The young are born alive, and until birth the saw teeth are folded against the blade and so prevent injury to the parent.

FAMILY SQUATINIDAE.

SQUATINA Duméril, 1806 (*squatina*).**SQUATINA AUSTRALIS** Regan (Angel Shark).

Rhina squatina McCoy, Prod. Zool. Viet., dec. iv, 1879, pl. xxxiv (not Linn.).
Squatina squatina Waite, Mem. Aust. Mus., iv, 1899, p. 37.
Squatina australis Regan, Ann. Mag. Nat. Hist. (ser. 7), xviii, 1906, p. 438.

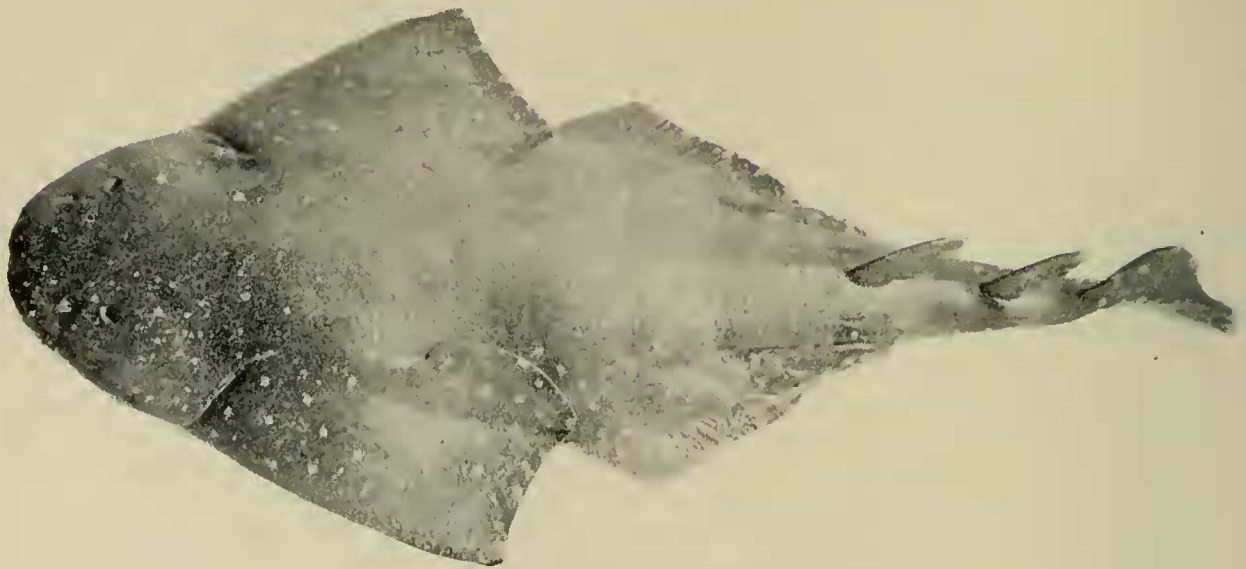


Fig. 36. *Squatina australis*.

Though classed with the sharks, the general features ally it rather with the rays; the broad flattened body, the small dorsal fins and their backward position, the slender tail and character of the vertebrae, are all ray-like; the lateral position of the gill-slits indicates affinities with the sharks. It is, in fact, a transitional form.

SQUATINA TERGOCELLATA McCulloch (Large-spotted Angel Shark).

Squatina tergozellata McCull., Endeavour Res., ii, 1914, p. 84, pl. xv, and text fig. 2.

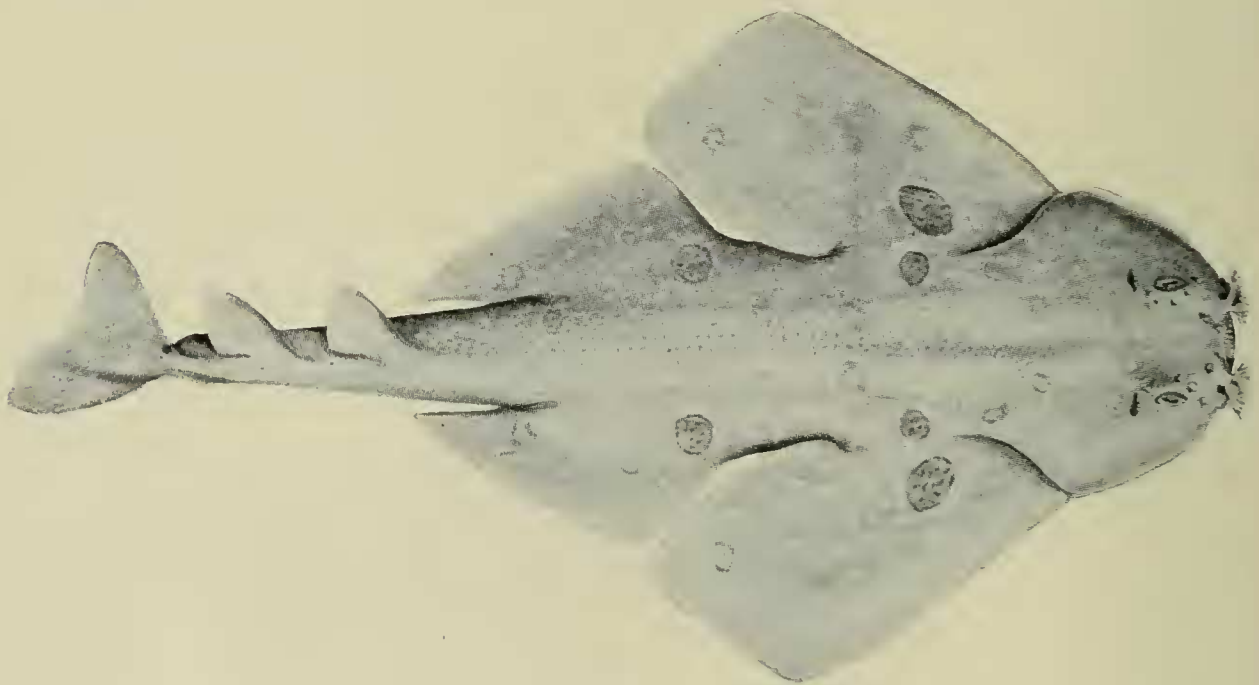
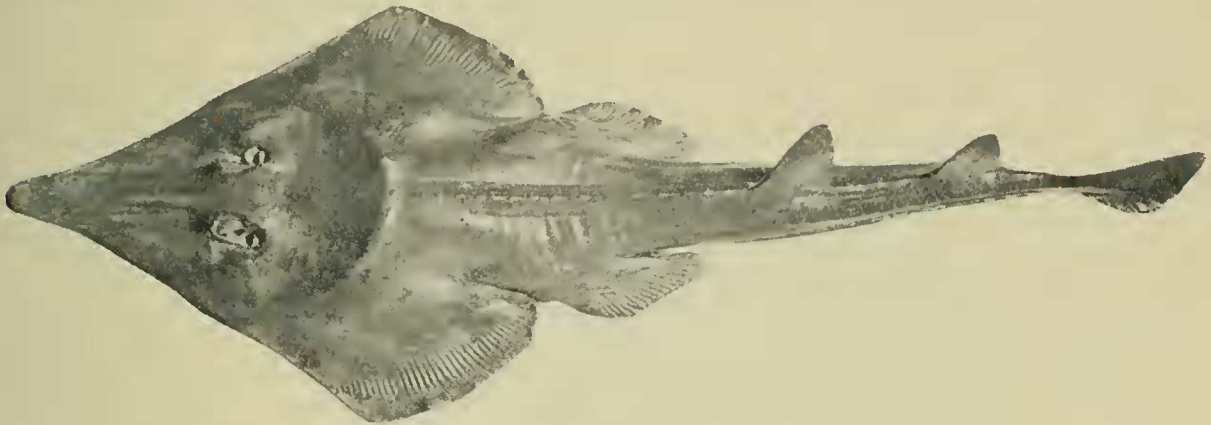


Fig. 37. *Squatina tergozellata*.

Known from a single specimen, taken in the Great Australian Bight.

ORDER BATOIDEI (RAYS).**FAMILY RHINOBATIDAE.****RHINOBATUS** Bloch & Schneider, 1801 (*rhinobatus*).**RHINOBATUS PHILIPPI** Müller & Henle (Shovel-nosed Ray).*Rhinobatus philippi* Müll. & Henle, Plagiost., 1838, p. 119, pl. xxxix; Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 278.*Rhinobatus banksii* Müll. & Henle, Plagiost., 1838, p. 123, 192; Waite, Mem. Aust. Mus., iv, 1899, p. 38, pl. iii.*Rhinobates vincentianus* Haacke, Zool. Anz., viii, 1885, p. 508.*Rhinobatus bougainvillei* Ogil., P.L.S., N.S.W., x, 1886, p. 464.Fig. 38. *Rhinobatus philippi*.

Unlike the skates, the rays of this Family hatch the eggs within the body; the young are thus born alive and active.

TRIGONORRHINA Müller & Henle, 1838 (*fasciata*).**TRIGONORRHINA FASCIATA** Müller & Henle (Fiddler).Fig. 39. *Trigonorrhina fasciata*.

Trigonorrhina fasciata Müll. & Henle, Mag. Nat. Hist. (2), ii, 1837, p. 90 and Plagiost., 1838, p. 124, pl. xliii.

Extremely common; a frequenter of shallow water, where it cruises around the jetties in search of food which is harboured by the piles.

FAMILY NARCOBATIDAE.

NARCOBATUS Blainville, 1816 (torpedo).

NARCOBATUS FAIRCHILD Hutton (Southern Numbfish).

Torpedo fairchildi Hutt., Cat. Fish. N.Z., 1872, p. 83, pl. xii, fig. 134; McCull., Rec. Aust. Mus., xii, 1919, p. 171, pl. xxv.

Torpedo fusca Parker, T.N.Z. Inst., xvi, 1884, p. 283, pl. xxii.

Narcacion fairehildi Waite, Rec. Cant. Mus., i, 1909, p. 144, pl. xvii.

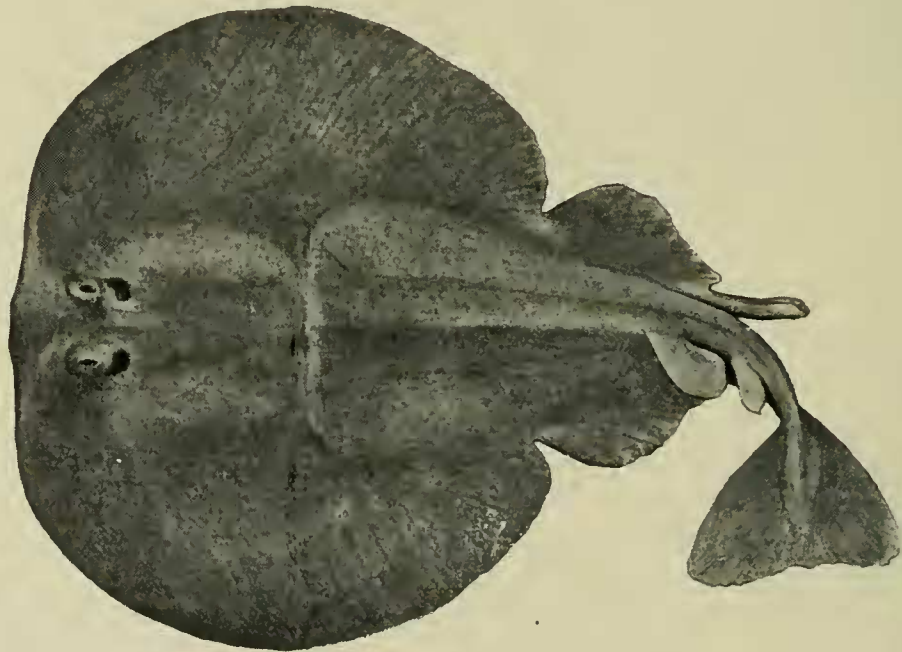


Fig. 40. *Narcobatus fairchildi*.

Frequents deeper water than the foregoing, and its range extends to the south of New Zealand.

HYPNARCE Waite, 1902 (subnigra).

HYPNARCE SUBNIGRA Duméril (Numbfish).

Hypnos subnigrum Dum., Rev. Mag. Zool. (2), iv, 1852, p. 279, pl. xii.

Hypnarce subnigra Waite, Rec. Aust. Mus., iv, 1902, p. 180.

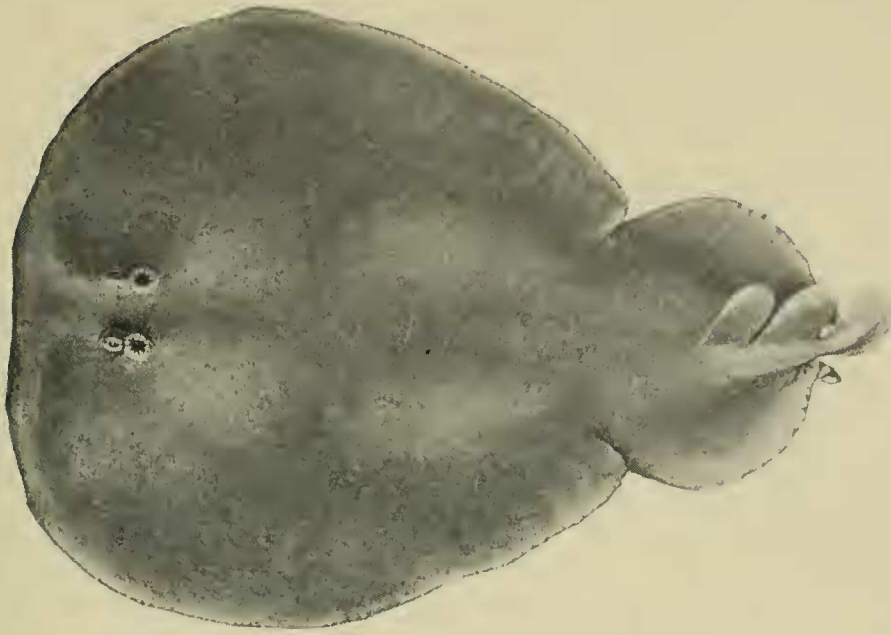


Fig. 41. *Hypnarrce subnigra*.

The larger forms of the family of electric rays are capable of giving very powerful shocks. This species attains to over two feet in length and, in our waters, is subject to peculiar distortion, which greatly changes its appearance.

FAMILY RAJIDAE.

RAJA Linnaeus, 1758 (batis).

RAJA LEMPRIERI Richardson (Skate).

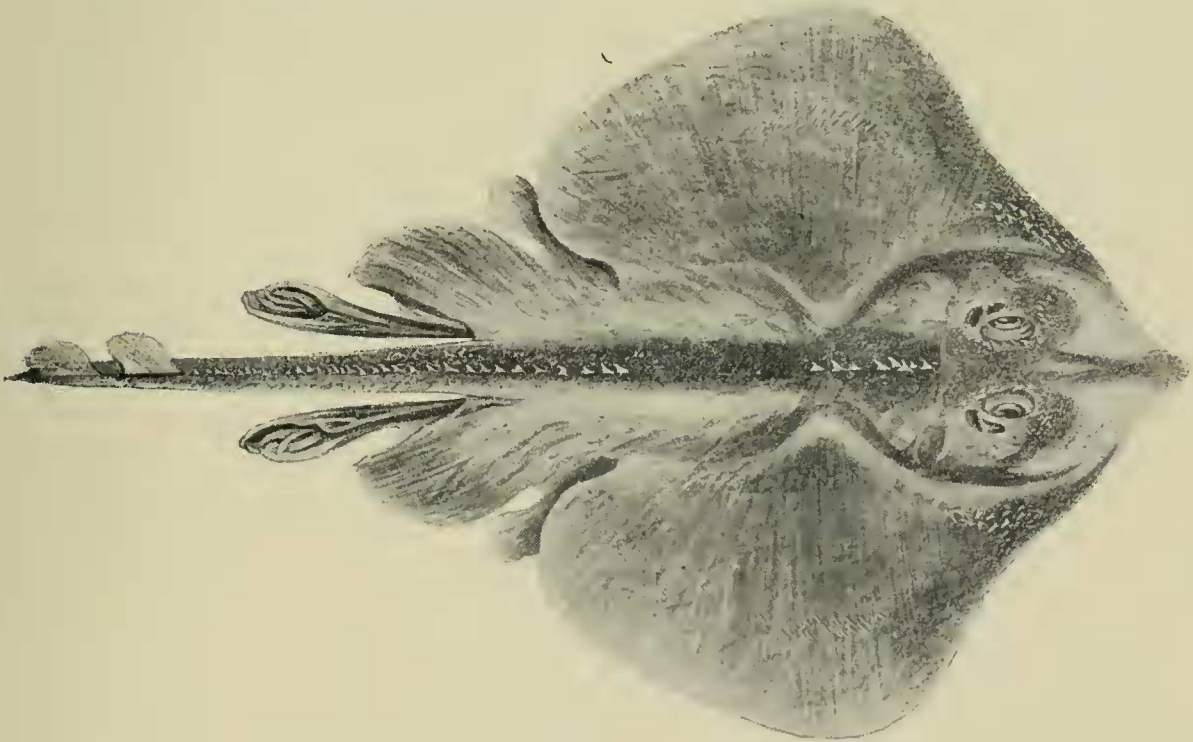


Fig. 42. *Raja lemprieri*.

Raja temprieri Rich., Zool. Ereb. & Terr., 1845, p. 34, pl. xxiii.

Raja dentata Klunz., Arch. f. Naturg., xxxviii, 1872, p. 46.

Raja australis Macl., P.L.S., N.S.W., viii, 1884, p. 461; Waite, Mem. Aust. Mus., iv, 1899, p. 40, pl. iv.

In other countries skates are used as food. The eggs are laid in four-cornered cases, the familiar "Skate-barrows."

PSAMMOBATIS Günther, 1870 (*rudis*).

PSAMMOBATIS WAITII McCulloch (Round Ray).

Raja waitii McCull., Endeavour Res., i., 1911, p. 12, pl. iii, and text fig. 4.

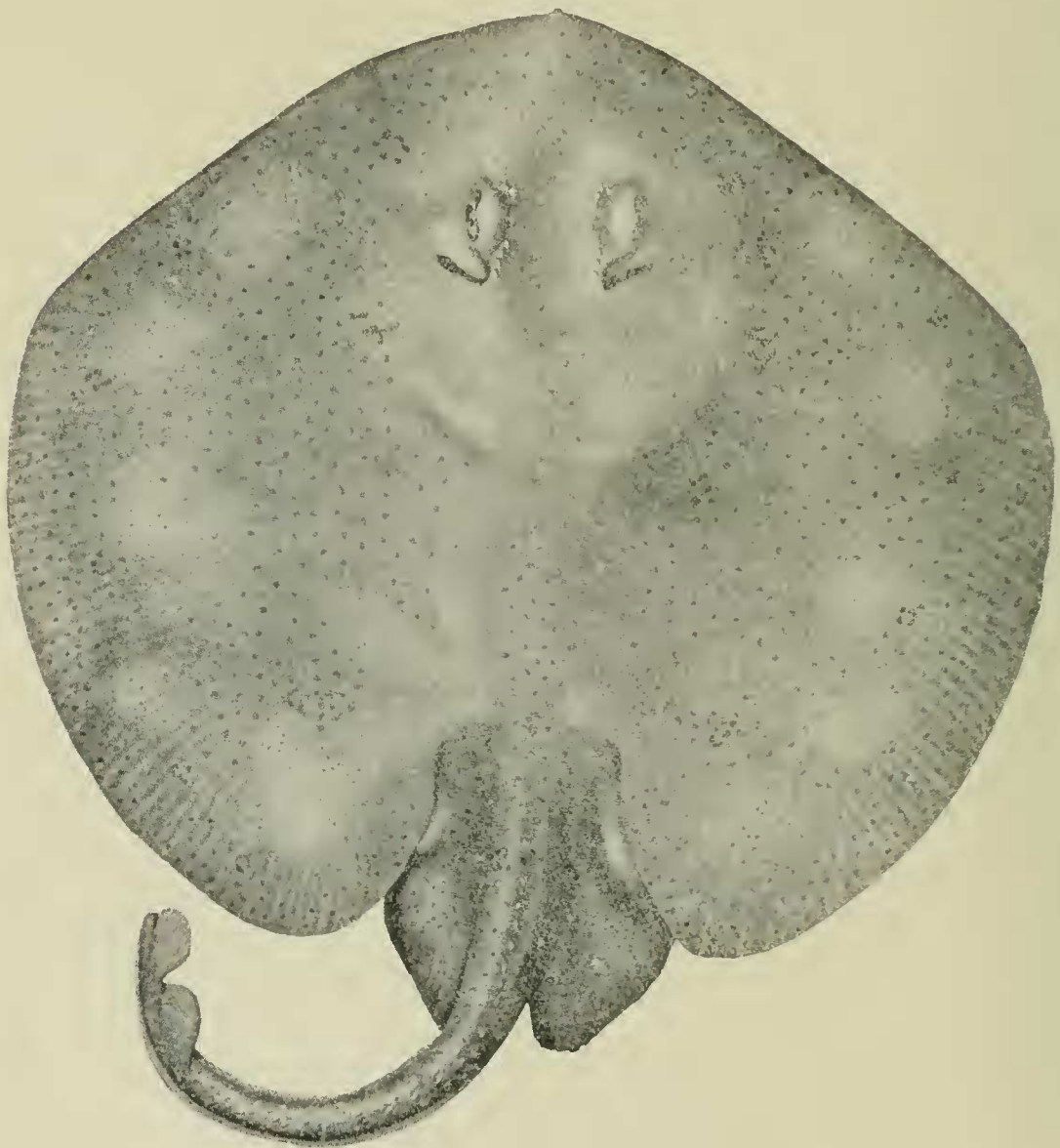


Fig. 43. *Psammobatis waitii*.

Remarkable for its almost circular shape and smooth skin. It is known only from a single specimen, taken off Greenly Island, South Australia.

FAMILY DASYATIDAE.

DASYATIS Rafinesque, 1810 (*pastinacus*).

DASYATIS BREVICAUDATUS Hutton (Stingray).

Trygon brevicaudata Hutt., Ann. Mag. Nat. Hist. (4), xvi, 1875, p. 317.

Dasybatus brevicaudatus Waite, Rec. Cant. Mus., i, 1909, p. 151, pl. xxii.

Dasyatis brevicaudatus McCull., Endeavour Res., iii., 1915, p. 102, pl. xv, fig. 1 and xvii, fig. 1.

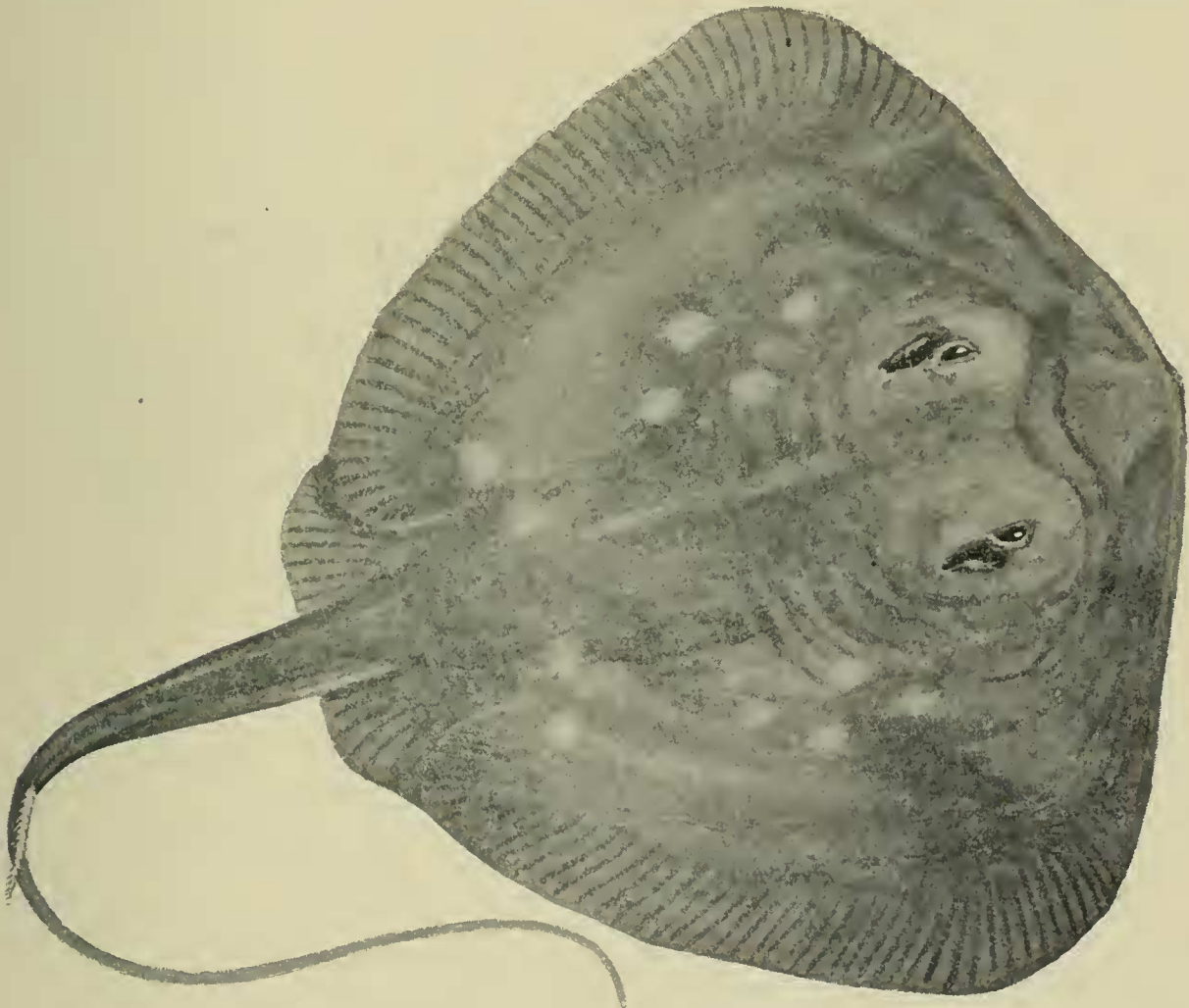


Fig. 44. *Dasyatis brevicaudatus*.

This species was described from a mutilated example, hence the unfortunate name (*brevicaudatus*). The large dark object seen gliding along the bottom in the deeper water off Kangaroo Island is doubtless this Stingray.

UROLOPHUS Müller & Henle, 1837 (cruciatus).**UROLOPHUS CRUCIATUS Lacepède (Banded Stingaree).**

Raja cruciata Lacep., Ann. Mus. Hist. Nat., iv, 1804, p. 201, 210, pl. Iv, fig. 2.

Leiobatus cruciatus Blainv., Bull. Soc. Philom., 1816, p. 121.

Urolophus ephippiatus Rich., Zool. Erch. & Terr., 1845, p. 35, pl. xxiv.

Urolophus cruciatus, Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 485; McCull., Endeavour Res., iv, 1916, p. 171.

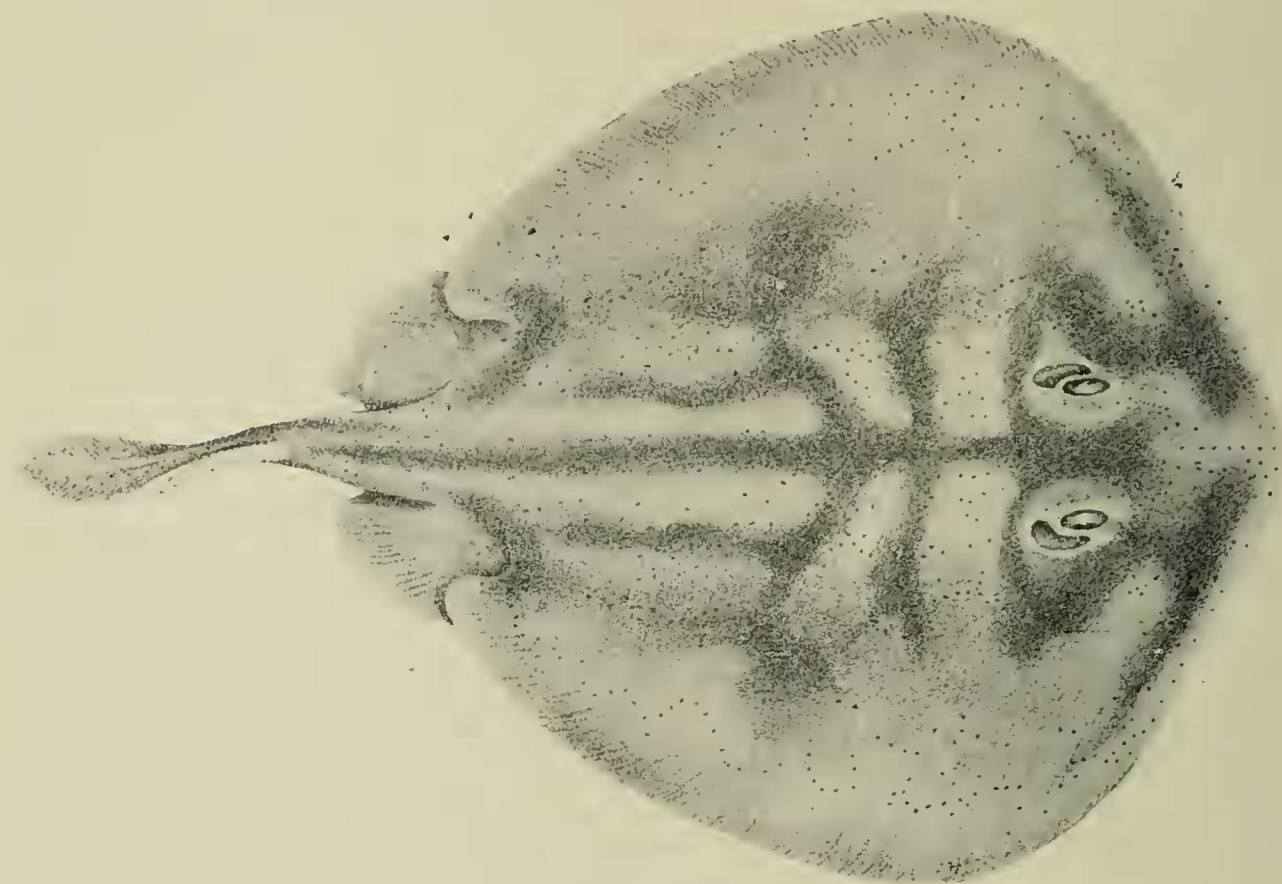


Fig. 45. *Urolophus cruciatus*.

Stingaree is the name assigned to the smaller forms, in which the tail is of moderate length and provided with an expanded fin. The larger rays, with a long whip-like tail, are called Stingrays, though the nomenclature is not observed throughout Australia. The Banded Stingaree is a deep-water form, hence the species generally taken by trawling.

UROLOPHUS TESTACEUS Müller & Henle (Stingaree).

Trygonoptera testacea Müll. & Henle, Plagiost., 1838, p. 174, pl. lvii.

Urolophus testaceus Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 486; McCull., Endeavour Res., iv, 1916, p. 174, pl. 1.

Trygon testacea Zietz, T.R.S., S.A., xxxii, 1908, p. 292.

Trygonoptera mullerii, *T. henlei* and *T. australis*, Steind., Sitzb. Akad. Wiss. Wien, lxxx, 1866, p. 479, 480, pl. vi, fig. 4, 5 and pl. vii.

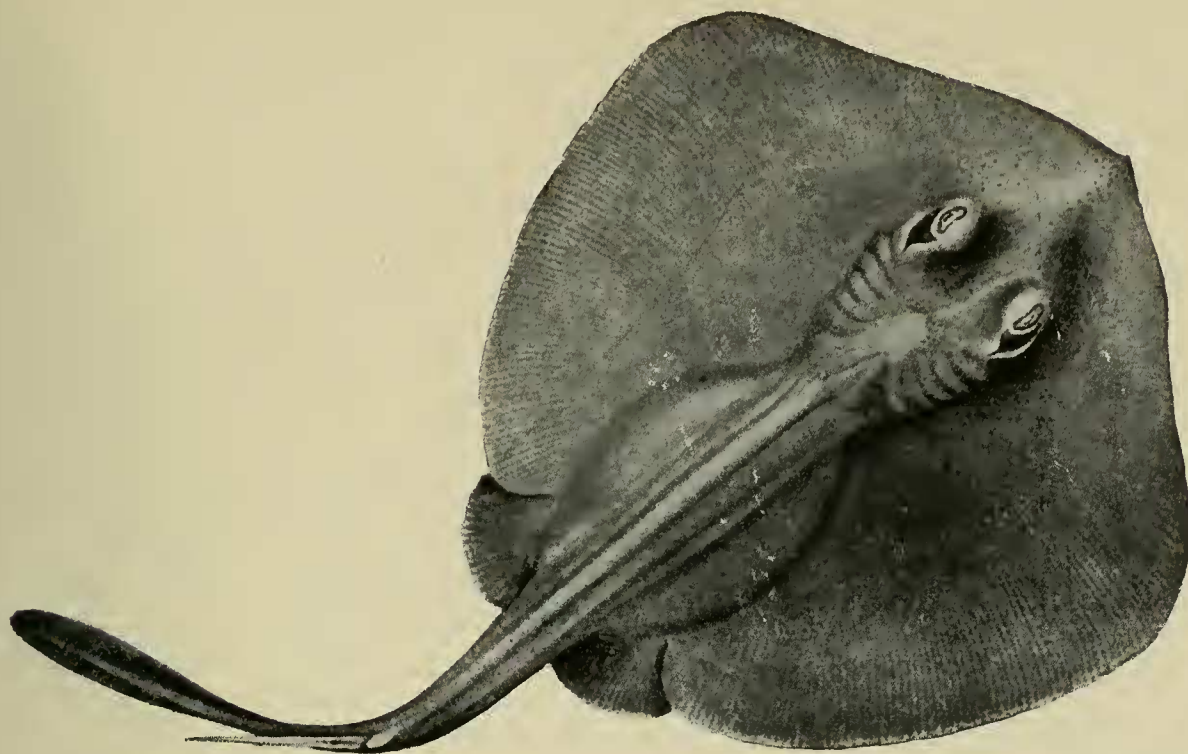


Fig. 46. *Urolophus testaceus*.

Common in shallow water. There is no poison sac in connection with the tail-spines of the Stingarees, but the spines make jagged and painful wounds.

UROLOPHUS EXPANSUS McCulloch (Broad-backed Stingaree).

Urolophus expansus McCull., Endeavour Res., iv, 1916, p. 178, fig. 2.

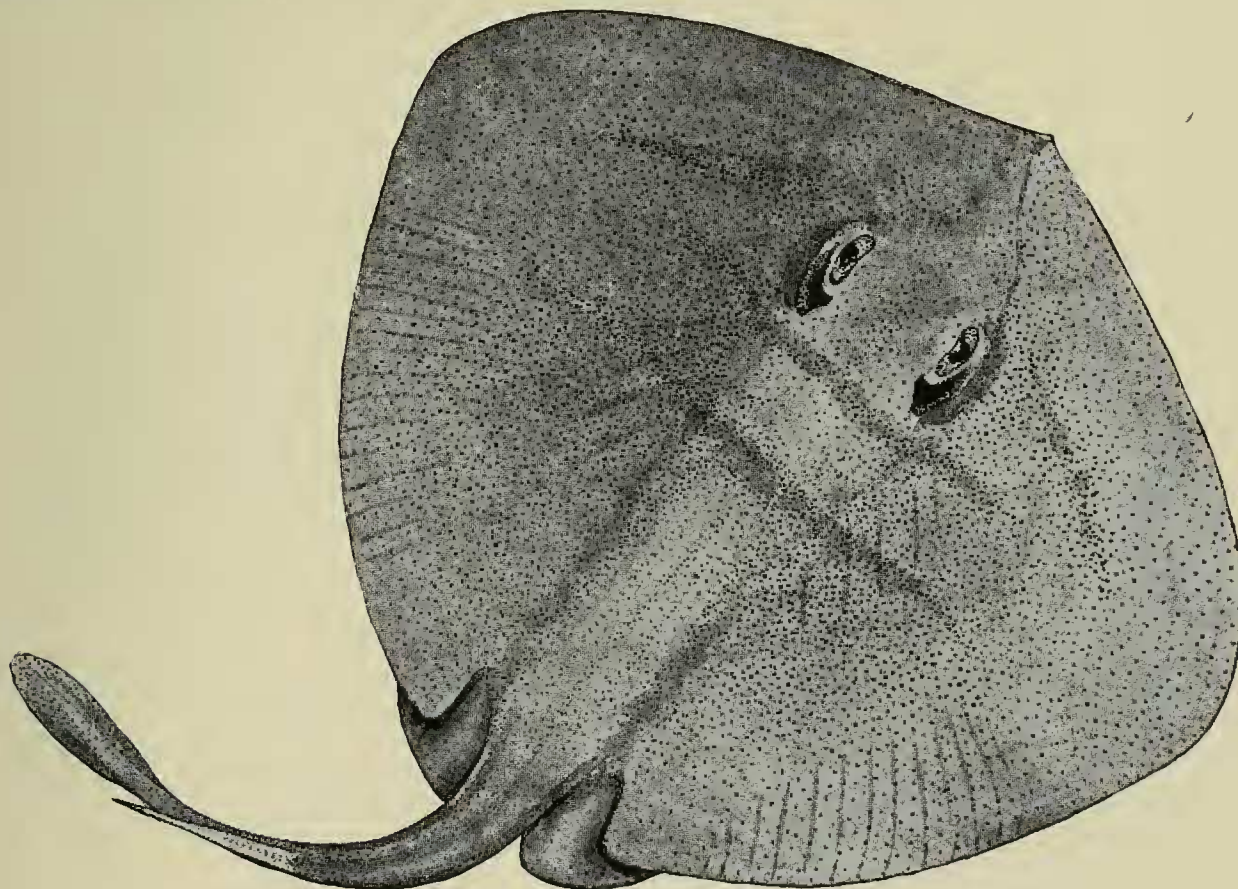


Fig. 47. *Urolophus expansus*.

Taken in the Great Australian Bight, 80-120 fathoms.

FAMILY MYLIOBATIDAE.

MYLIOBATIS Cuvier, 1817 (aquila).

MYLIOBATIS TENUICAUDATUS Hector (Eagle Ray).

Myliobatis tenuicaudatus Hect., T.N.Z. Inst., ix, 1877, p. 468; Garm., Mem. Mus. Comp. Zool., xxxvi, 1913, p. 433.

Myliobatis australis Mael., P.L.S., N.S.W., vi, 1881, p. 380; McCoy, Prod. Zool. Viet., dec. vii, 1882, pl. lxiii.

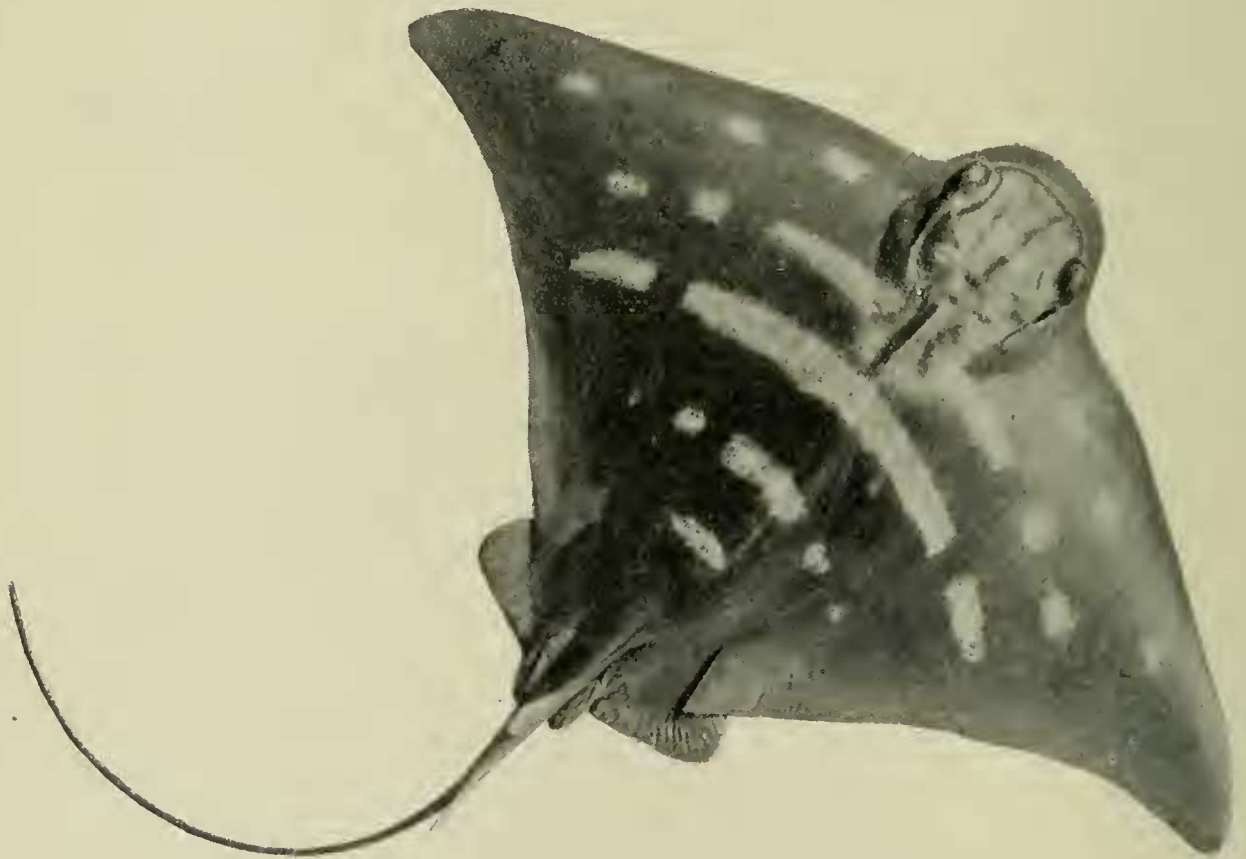


Fig. 48. *Myliobatis tenuicaudatus*.

Crushes shells with its flat pavement-like teeth, whence it is also called Mill Ray.

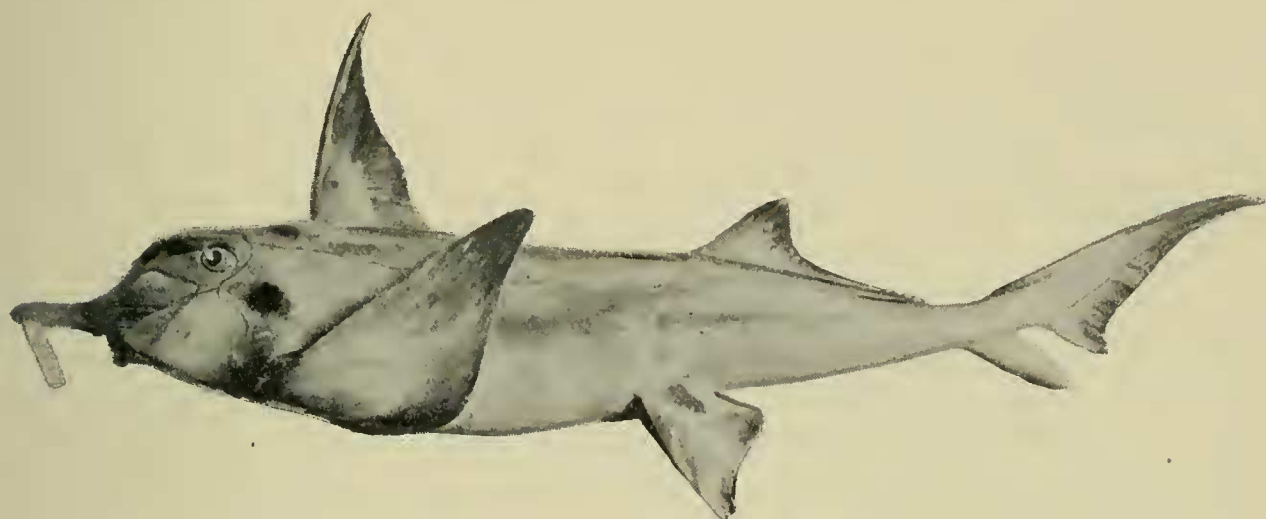
SUB-CLASS HOLOCEPHALI.

FAMILY CALLORHYNCHIDAE.

CALLORHYNCHUS Cuvier, 1817 (*callorhynchus*).**CALLORHYNCHUS MILII** Bory (Elephant Shark).

Callorhynchus milii Bory, Diet. Class. Hist. Nat., iii, 1823, p. 62, pl. v; Garm., Bull. Mus. Comp. Zool., xli, 1904, p. 266, pl. vi, fig. 7-8 (teeth) and xv, fig. 4, 5 (brain).

Callorhynchus antarcticus Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 351 (part); McCoy, Prod. Zool. Viet., dec. xii, 1886, pl. cxii.

Fig. 49. *Callorhynchus milii*.

The quaint forms of the Sub-class *Holocephali* have a single external gill-slit and a depressible dorsal spine. In the Port Jackson Sharks and the Spiny Dogfishes, the spines are fixed in erect position and precede both dorsal fins.

SUB-CLASS TELEOSTOMI (BONY FISHES).

ORDER ISOSPONDYLI.

FAMILY ENGRAULIDAE.

ENGRAULIS Cuvier, 1817 (*enegrasiholus*).**ENGRAULIS AUSTRALIS** Shaw (Anchovy).

Atherina australis Shaw, in White's Voy. N.S.W., 1790, p. 296, pl. lxiv, fig. 1.

Engraulis australis McCoy, Off. Rec. Interc. Exhib. Melb., 1866, p. 319; McCull., Rec. Aust. Mus., xiii, 1920, p. 43, pl. xii, fig. 1 (ref.).

Engraulis antipodum Günth., Cat. Fish. Brit. Mus., vii, 1868, p. 386.

Engraulis antarcticus Cast., P.Z.S. Vict., i, 1872, p. 186.

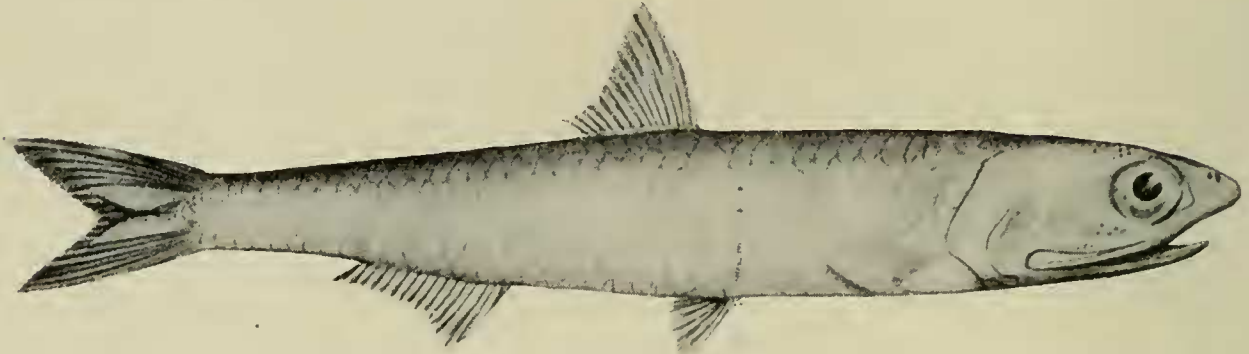


Fig. 50. *Engraulis australis*.

Occasionally reported as occurring in immense shoals off Eastern and Victorian coasts. Has been similarly recorded here, but systematic observations are needed, only possible when a fisheries bureau is instituted on a scientific basis. Anchovies are valuable economic fishes.

FAMILY CLUPEIDAE.

ETRUMEUS Bleeker, 1853 (micropus).

ETRUMEUS JACKSONIENSIS Macleay (Maray).

Etrumeus jacksoniensis MacL., P.L.S., N.S.W., iii, 1878, p. 36, pl. iv, fig. 1 and iv, 1879, p. 382; Ogil., Edib. Fish. N.S.W., 1893, p. 186; McCull., Rec. W.A. Mus., i, 1914, p. 211, pl. xxix.

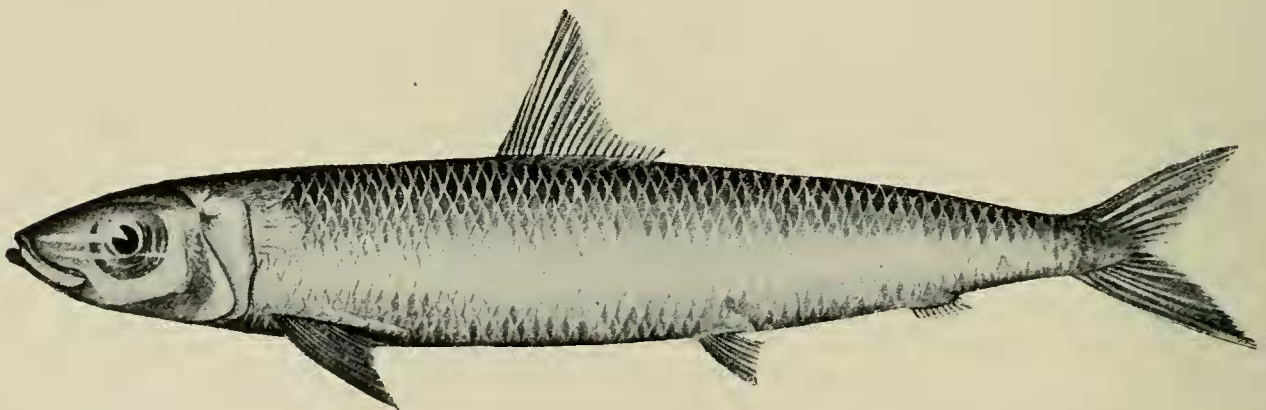


Fig. 51. *Etrumeus jacksoniensis*.

Like the Pilchard, occurs in great shoals: it is somewhat similar to that fish but can be at once distinguished by the round smooth belly, from which character the name "Round Herrings" is applied to members of this genus.

CLUPEA Linnaeus, 1758 (harengus).**CLUPEA BASSENSIS** McCulloch (Sprat).

Clupea sprattus Günth., P.Z.S., 1871, p. 672 (not Linn.).

Clupea bassensis McCull., Endeavour Res., i, 1911, p. 16, pl. iv, fig. 2.

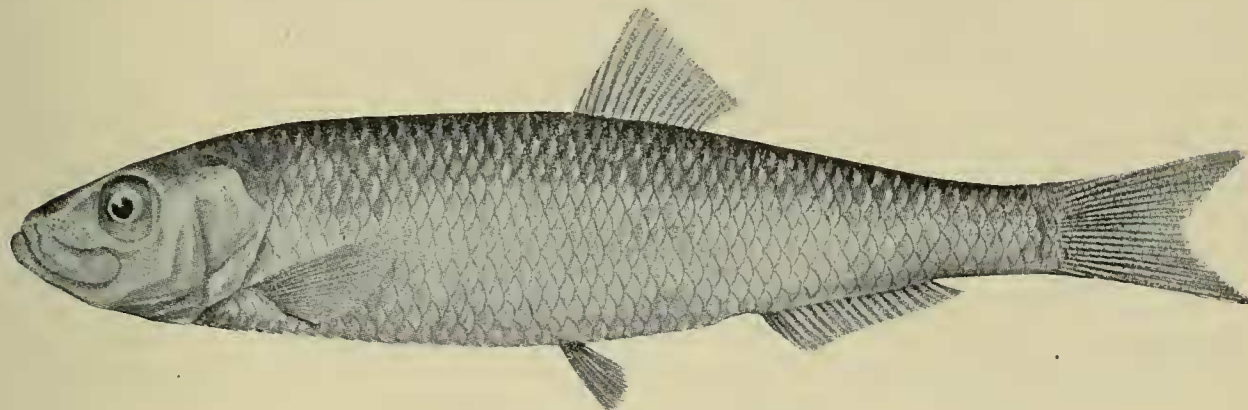


Fig. 52. *Clupea bassensis*.

Scarcely distinguishable from the European Sprat, but not commercially netted.

SARDINIA Poey, 1860 (pseudohispanica).**SARDINIA NEOPILCHARDA** Steindachner (Pilchard).

Clupea neopilchardus Steind., Denk. Akad. Wien., xli, 1879, p. 12.

Clupea sagar Cast., P.Z.S., Viet., i, 1872, p. 187; Ogil., Edib. Fish. N.S.W., 1893, p. 180, pl. xlv.

Clupanodon neopilchardus Waite, Mem. Aust. Mus., iv, 1899, p. 53; Stead, Edib. Fish. N.S.W., 1908, p. 25, pl. iv; McCull., Endeavour Res., i, 1911, p. 17; Roughley, Fish. Aust., 1916, p. 30.

Amblygaster neopilchardus Waite, Aust. Antaret. Exped. Fishes, iii, 1916, p. 56.

Sardina neopilchardus Regan, A.M.N.H. (8), xviii, 1916, p. 14, pl. i, fig. 2.

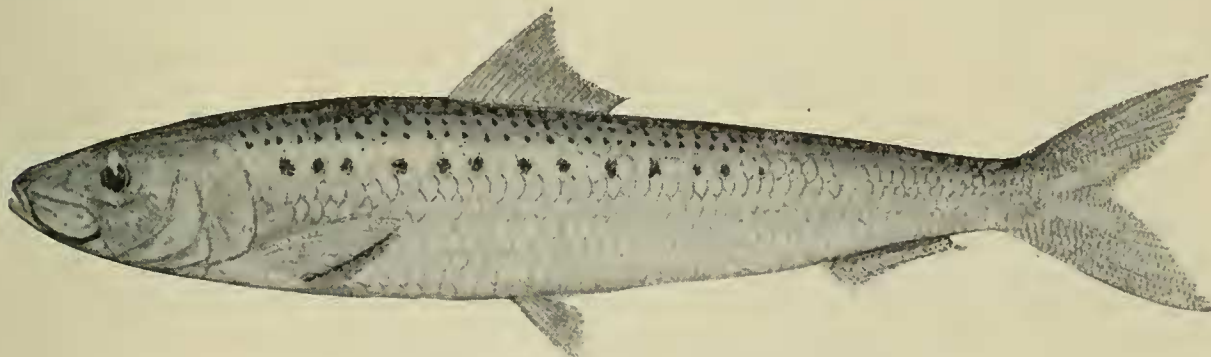


Fig. 53. *Sardinia neopilcharda*.

Said to visit Australian shores every winter in countless myriads, and destined some day to become an important source of food. In Europe young

Pilchards are the familiar Sardines. In America Pilchards of any age are called Sardines. These and allied fishes differ from the "Round Herrings" in having the belly sharp and rough to the touch.

DOROSOMA Rafinesque, 1820 (heterura).

DOROSOMA COME Richardson (Bony Bream, Tukari).

Chatoessus come Rich., Zool. Ereb. & Terr., ii, 1845, p. 62, pl. xxxviii, fig. 7-10.

Chatoessus erebi Günth., Cat. Fish. Brit. Mus., vii, 1868, p. 407; Cast., P.Z.S., Viet., i, 1872, p. 184.

Chatoessus richardsoni Cast., *op. cit.*, ii, 1873, p. 144; Ogil., Edib. Fish. N.S.W., 1893, p. 178.

Chatoessus horni Zietz, Rep. Horn Exped., ii, 1896, p. 180, pl. xvi, fig. 6.

Dorosoma nasus Stead, Edib. Fish. N.S.W., 1908, p. 24, pl. iii.

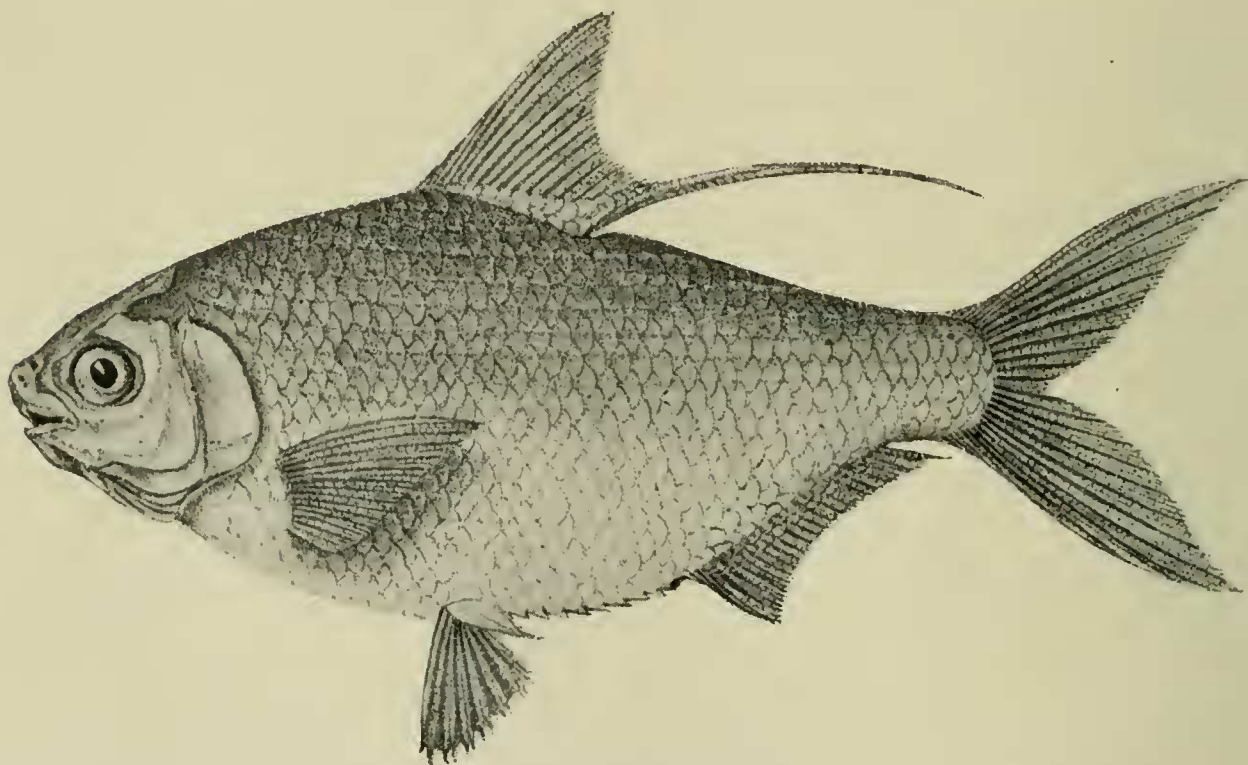


Fig. 54. *Dorosoma come*.

Too bony to be appreciated as food, but the objectionable feature may be largely overcome by souping the fish in vinegar.

STOLEPHORUS Lacepède, 1803 (japonicus).

STOLEPHORUS ROBUSTUS Ogilby (Blue Sprat).

Spratelloides robustus Ogil., P.L.S., N.S.W., xxii, 1898, p. 64.

Stolephorus robustus Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 12 and Rec. Aust. Mus., vi, 1906, p. 195; McCull., Rec. Aust. Mus., xiii, 1920, p. 42, pl. xi, fig 1.

Spratelloides delicatulus Zietz, T.R.S., S.A., xxxii, 1908, p. 295 (not Benn.).

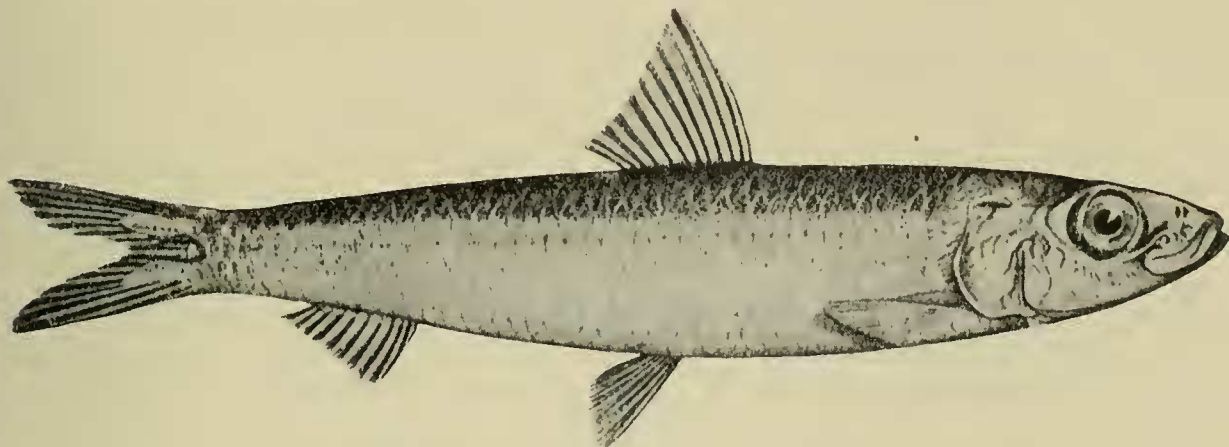


Fig. 55. *Stolephorus robustus*.

An excellent little food fish, but not more than four inches long. Differs from the next species in having the back and belly smooth.

HYPERLOPHUS Ogilby, 1893 (spratellides=vittatus).

HYPERLOPHUS VITTATUS Castelnau (Rough-backed Sprat).

Meletta vittata Cast., Res. Fish. Aust., 1875, p. 46.

Clupea vittata Macl., P.L.S., N.S.W., iv, 1879, p. 379.

Clupea spratellides Ogil., Rec. Aust. Mus., ii, 1892, p. 24.

Diplomystus spratellides Ogil., Edib. Fish. N.S.W., 1893, p. 183.

Hyperlophus (Omochetus) copii Ogil., P.L.S., N.S.W., xxii, 1898, p. 72.

Hyperlophus vittatus McCull., Rec. Aust. Mus., xi, 1917, p. 163, pl. xxix, fig. 1, 2.

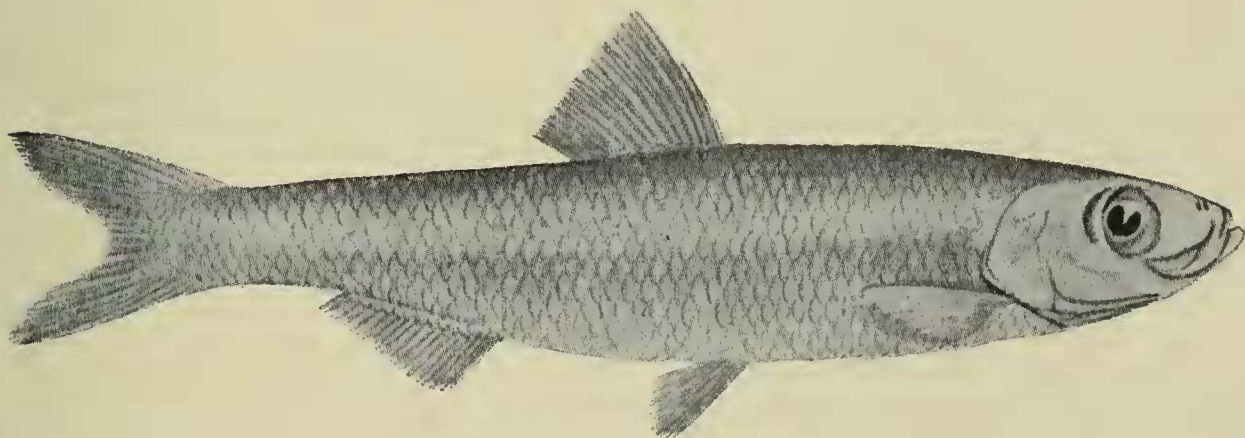


Fig. 56. *Hyperlophus vittatus*.

“A delicate and delicious little fish, destined to become the very finest sardine of commerce.” The back and belly are both rough.

FAMILY GONORHYNCHIDAE....

GONORHYNCHUS Scopoli, 1777 (*gonorhynchus*).

GONORHYNCHUS GREYI Richardson (Sand Fish).

Rynchana greyi Rich., Zool. Ereb. & Terr., 1845, p. 44, pl. xxix, fig. 1-6 and text fig.

Gonorhynchus greyi Günth., Cat. Fish. Brit. Mus., vii, 1868, p. 373.

Gonorhynchus gonorynchus Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 13; Stead, “Beaked Salmon,” 1908, plate and text fig. (scale).

Gonorhynchus forsteri Ogil., Ann. Qld. Mus., x, 1911, p. 34.



Fig. 57. *Gonorhynchus greyi*.

A somewhat primitive marine fish, living on sandy stretches, but seldom seen; its body is almost circular in section: its flesh white, firm and good to eat. The undershot jaw is responsible for the name “Sand Shark”; it is also known as “Beaked Salmon.”

FAMILY GALAXIIDAE.

GALAXIAS Cuvier, 1817 (*truttaceus*).

GALAXIAS ATTENUATUS Jenyns (Native trout, Pulangi).

Galaxias truttaceus Valenc., in Cuv., Ill. Règ. Anim., 1829, pl. xxvii, fig. 1 (not Cuv.).

Mesites attenuatus Jenyns, Zool. Beagle, iii, 1842, p. 121, pl. xxii, fig. 5.

Galaxias scriba and *G. attenuatus* Cuv. & Val., Hist. Nat. Poiss., xviii, 1846, p. 347, 348.

Galaxias maculatus Rich., Zool. Ereb. & Terr., 1848, p. 75, pl. xliii, fig. 14-17 (not Jenyns).

Galaxias minutus Philippi, Arch. f. Naturg., xxiv, 1858, p. 309.

Galaxias krefftii and *G. punctatus* Günth., Cat. Fish. Brit. Mus., vi, 1866, p. 211, 212.

Galaxias waterhousei Krefft, P.Z.S., 1867, p. 943.

Galaxias cylindricus and *G. delicatulus* Cast., P.Z.S., Viet., i, 1872, p. 177, 178.

Galaxias campbelli Sauv., Bull. Soc. Phil. (7), iv, 1880, p. 229.

Galaxias nebulosa MacL., P.L.S., N.S.W., vi, 1881, p. 234.

Austrocobitis attenuatus Ogil., P.L.S., N.S.W., xxiv, 1899, p. 158.

Galaxias alpinus (part) Smitt, Bih. Svenska Akad., xxvi (iv, 13), 1901, p. 21, pl. ii, fig. 9-12.

Galaxias attenuatus Regan, P.Z.S., 1906, p. 368, pl. xii, fig. 1 and xiii, fig. 2.

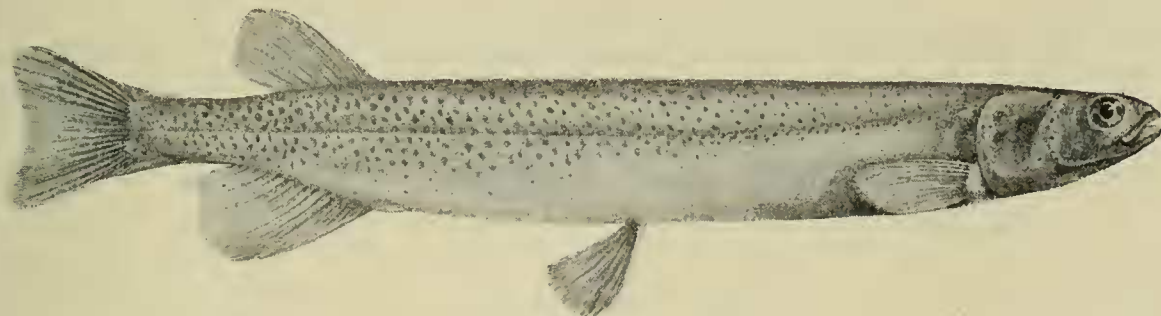


Fig. 58. *Galaxias attenuatus*.

Common in all our fresh-waters that run to the sea, where the species is believed to spawn. Has a very wide distribution in Southern seas, which circumstance is frequently advanced in support of the contention of a former Antarctic Continent. The young of this species, caught ascending the rivers, is the main constituent of the New Zealand "whitebait."

GALAXIAS OLIDUS Günther (Minnow).

Galaxias olidus Günth., Cat. Fish. Brit. Mus., vi, 1866, p. 209; Regan, P.Z.S., 1906, p. 381, pl. xi, fig. 3.

Galaxias schomburgkii Peters, Mon. Akad. Berl., 1868, p. 455; Regan, *op. cit.*, p. 382.

Galaxias kayi Rams. & Ogil., P.L.S., N.S.W. (2), i, 1887, p. 6.



Fig. 59. *Galaxias olidus*.

Similar to the preceding but confined to fresh-water; is appreciated as a pan fish by picnickers. An excellent aquarium fish, but has, so far, not been bred in captivity.

GALAXIAS COXII Macleay (Mountain Trout).

Galaxias coxii Maccl. P.L.S., N.S.W., v, 1880, p. 45; Ogil., Edib. Fish. N.S.W., 1893, p. 176; Regan, P.Z.S., 1906, p. 380, pl. xii, fig. 2; Zietz, T.R.S., S.A., xxxii, 1908, p. 297.

Galaxias n'gothoruk Lucas, P.R.S., Viet. (2), iv, 1892, p. 27.

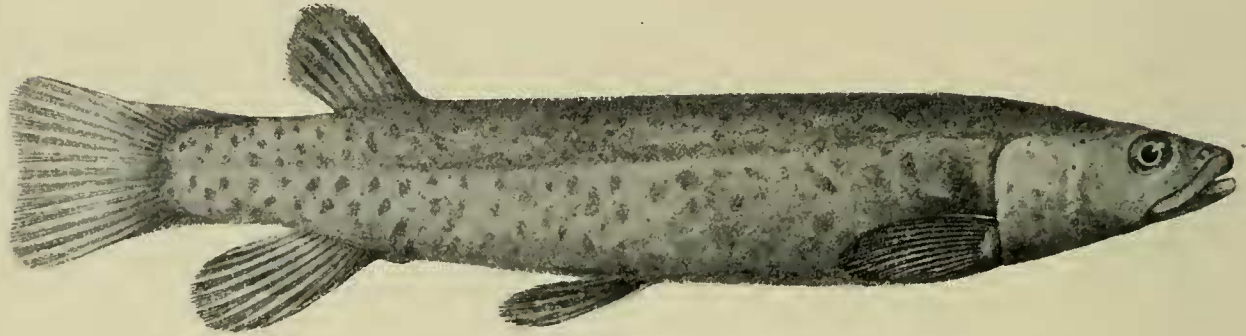


Fig. 60. *Galaxias coxii*.

The occurrence of this species in South Australia is doubtful.

FAMILY ARGENTINIDAE.

ARGENTINA Linnaeus, 1758 (*sphyraena*).

ARGENTINA ELONGATA Hutton (Silverside).

Argentina elongata Hutt., A.M.N.H. (5), iii, 1879, p. 53; Günth., Chall. Rep., xxii, 1887, p. 218, pl. lv, fig. B; McCull., Endeavour Res., i, 1911, p. 18 and ii, 1914, p. 87; Waite, Rec. Cant. Mus., i, 1911, p. 161, pl. xxiv.

Argentina decagon Clarke, T.N.Z.L., xi, 1879, p. 296, pl. xiv.

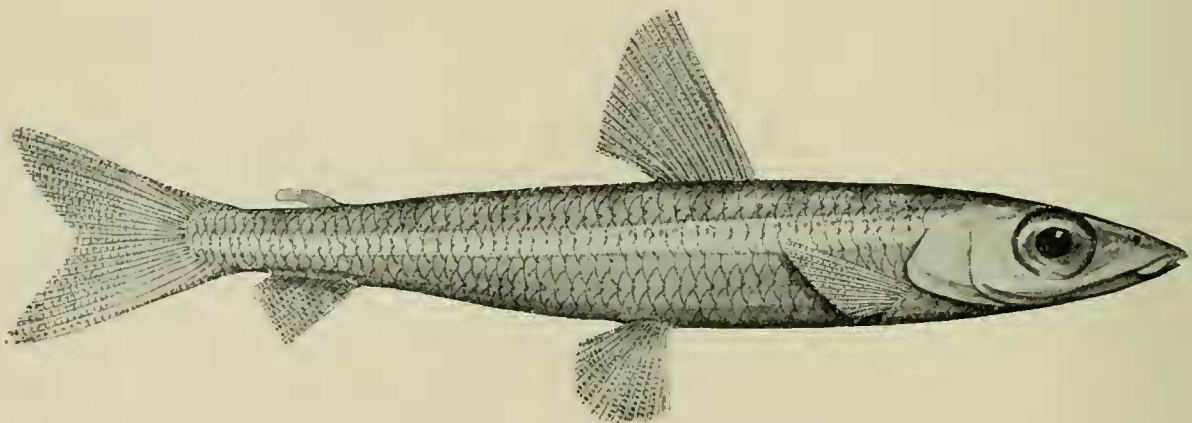


Fig. 61. *Argentina elongata*.

A deep-water fish, taken by the "Endeavour" in the Great Australian Bight.

FAMILY RETROPINNIDAE.

RETROPINNA Gill, 1862 (*retropinna*).**RETROPINNA SEMONI** Weber (*Smelt, Kantari*).

Richardsonia retropinna Steind., Sitz. Akad. Wiss. Wien, liii, 1866, p. 469 (not Rich.).

Retropinna richardsonii Macl., P.L.S., N.S.W., vi, 1882, p. 228 (not Gill).

Retropinna retropinna Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 13 (not Rich.).

Prototröctes semoni Weber, Zool. Forsch. Aust., v, 1895, p. 274.

Jenynsella weatherilli Ogil., Ann. Qld. Mus., ix, 1908, p. 15.

Jenynsella semoni Ogil., Mem. Qld. Mus., i, 1912, p. 32.

Retropinna semoni Ogil., Mem. Qld. Mus., vi, 1918, p. 97; McCull., Rec. Aust. Mus., xiii, 1920, p. 49, pl. xi, fig. 2. 3.

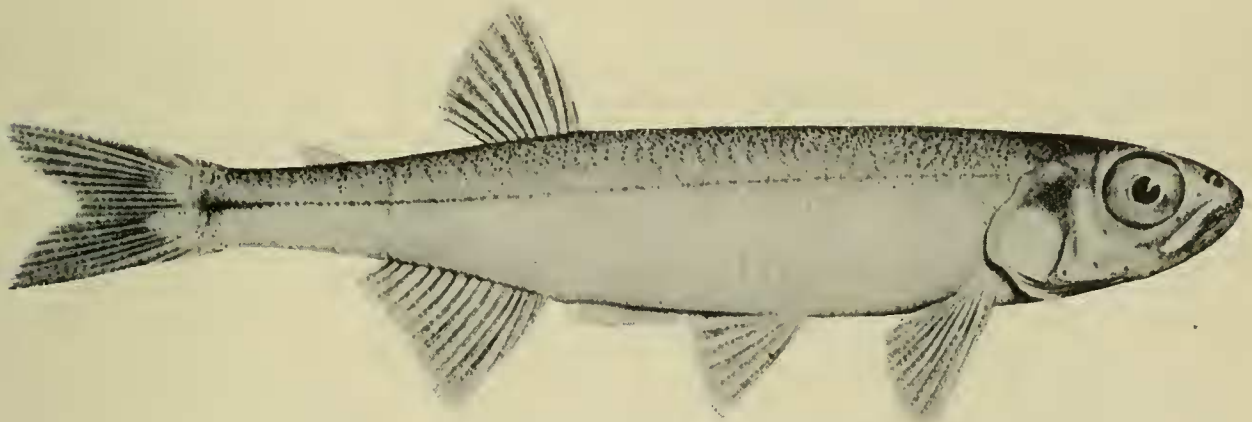


Fig. 62. *Retropinna semoni*.

Like its British prototype (*Osmerus*), this little fish has an odour resembling that of a cucumber.

FAMILY STERNOPTYCHIDAE.

POLYIPNUS Günther, 1887 (*spinosus*).**POLYIPNUS TRIDENTIFER** McCulloch (*Luminous Fish*).

Polyipnus tridentifer McCull., Endeavour Res., ii, 1914, p. 87, pl. xvi and fig. 4.

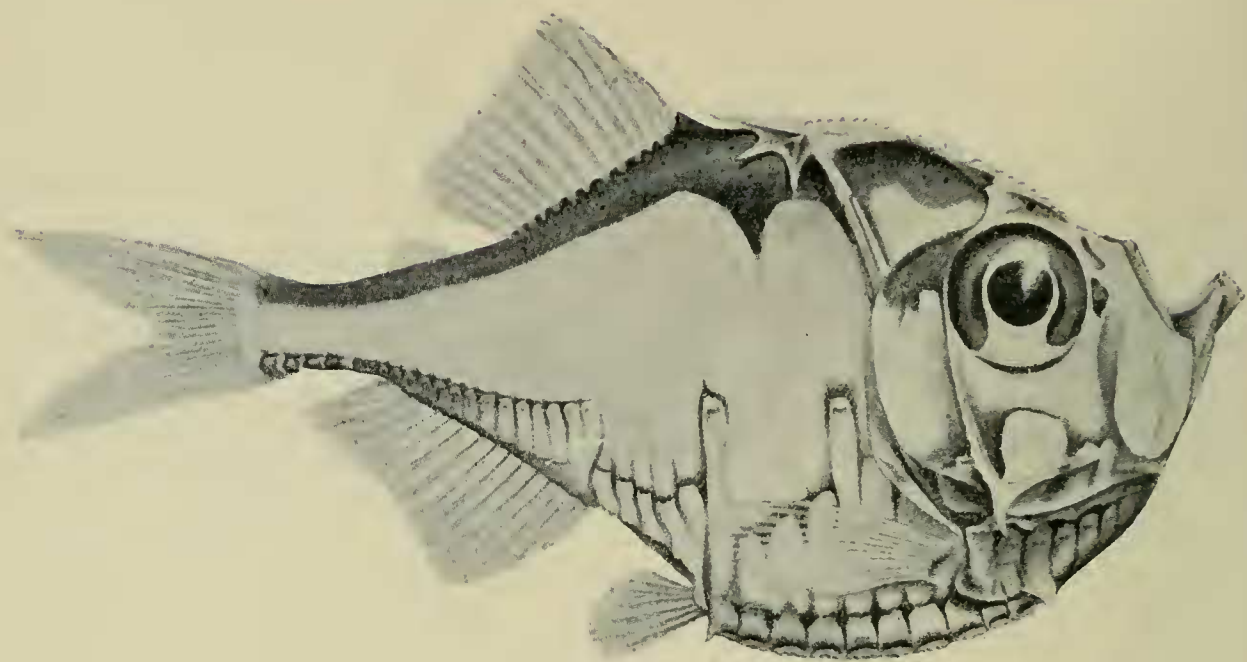


Fig. 63. *Polyipus tridentifer*.

Fishes of this Family are recorded from considerable depths, but are believed to ascend to or near the surface at night. The markings on the lower half of the body are light-giving organs.

ORDER INIOMI.

FAMILY AULOPIDAE.

AULOPUS Cuvier, 1817 (*filamentosus*).

AULOPUS PURPURISSATUS Richardson (Sergeant Baker).

Aulopus purpurissatus Rich., Icon. Pisc., 1843, p. 6, pl. ii, fig. 3; McCoy, Prod. Zool. Viet., dec. vi, 1881, pl. liv, lv; Ogil., Edib. Fish. N.S.W., 1893, p. 166, pl. xl; Stead, Edib. Fish. N.S.W., 1908, p. 33, pl. ix; Roughley, Fish. Aust., 1916, p. 25, pl. iii.

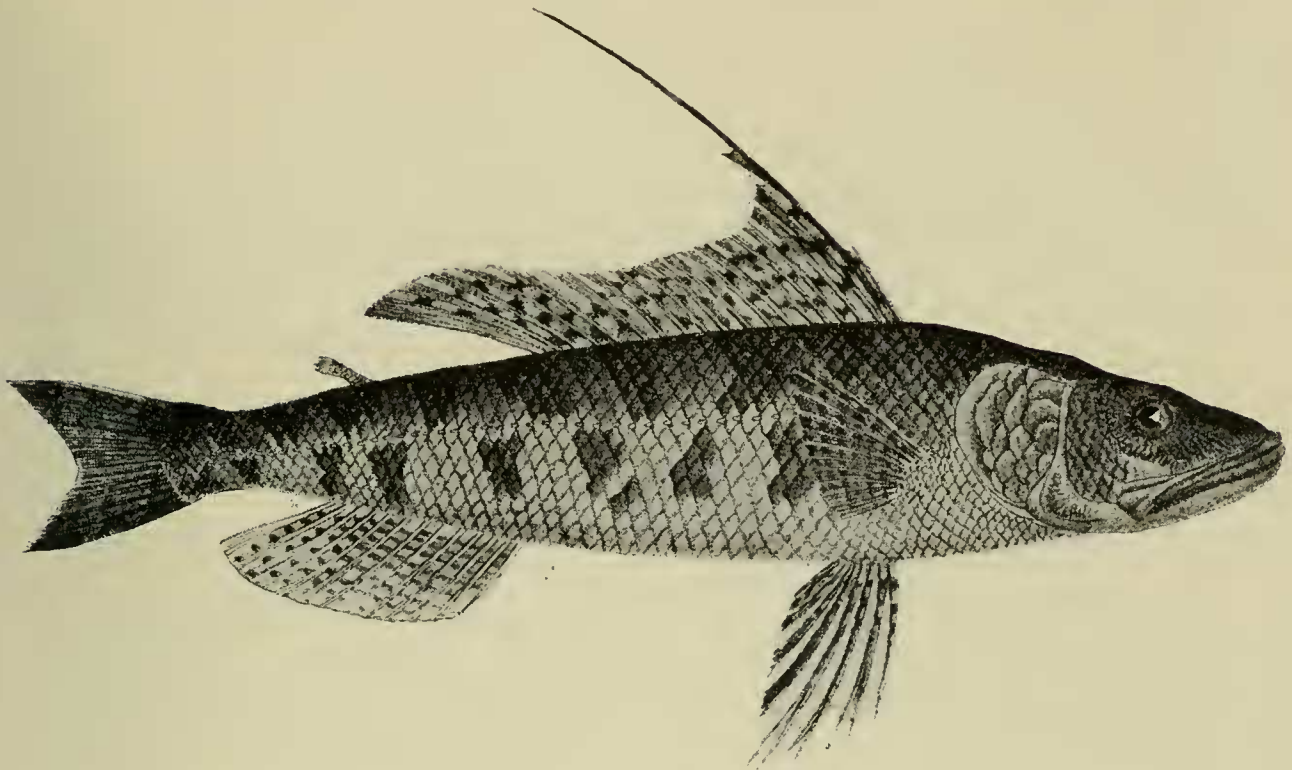


Fig. 64. *Aulopus purpurissatus*.

A good table fish, attaining a length of twenty-four inches. The long fin ray seen in the figure occurs in the male only.

FAMILY MYCTOPHIDAE.

MYCTOPHUM Rafinesque, 1810 (*punctatum*).

MYCTOPHUM CEPHALOTES Castelnau (Lantern Fish).

Neoscopelus cephalotes Cast., Res. Fish. Aust., 1875, p. 46.

The Lantern Fishes bear a large number of photophores or light organs, disposed chiefly on the head and towards the lower side of the body.

NEOSCOPELUS Johnson, 1863 (*macrolepidotus*).

NEOSCOPELUS MACROLEPIDOTUS Johnson (Lantern Fish).

Neoscopelus macrolepidotus Johnson, P.Z.S., 1863, p. 44, pl. vii; Goode & Bean, U.S. Nat. Mus. sp. Bull., ii (Oceanic Ichth.), 1895, p. 93, pl. xxix, fig. 108, 109; McCull., Endeavour Res., ii, 1914, p. 90, pl. xvii; Vaill., Exp. Sci. Trav. & Tal., 1888, p. 119, pl. ix, fig. 2.

Scopelus macrolepidotus Günth., Cat. Fish. Brit. Mus., v, 1864, p. 414.

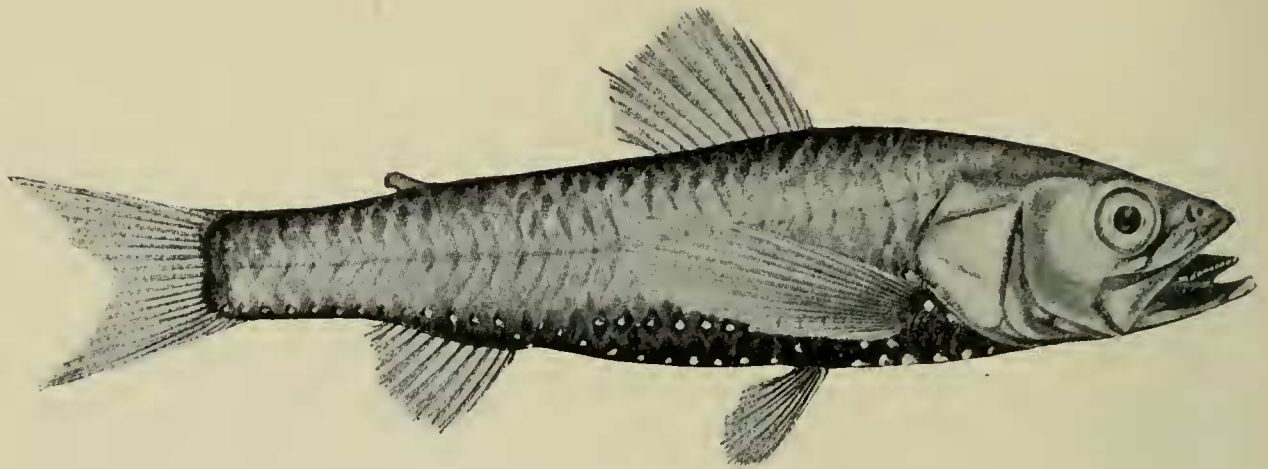


Fig. 66. *Neoscopelus macrolepidotus*.

ORDER NEMATOGNATHI.

FAMILY SILURIDAE.

CNIDOGLANIS Günther, 1864 (megastoma).

CNIDOGLANIS MEGASTOMA Richardson (Estuary Catfish).

Plotosus megastomus Rich., Zool. Ereb. & Terr., 1845, p. 31, pl. xxi, fig. 1-3.

Cnidoglanis megastoma Günth., Cat. Fish. Brit. Mus., v, 1864, p. 27; Ogil., Edib.

Fish. N.S.W., 1893, p. 164; Stead, Edib. Fish. N.S.W., 1908, p. 29, pl. vii.

Chaeroplotosus decemfilis Kner, Reise Novara Fische, 1867, p. 300, pl. xii, fig. 1.

?*Ostophycephalus duriceps* Ogil., P.L.S., N.S.W., xxiv, 1899, p. 156.

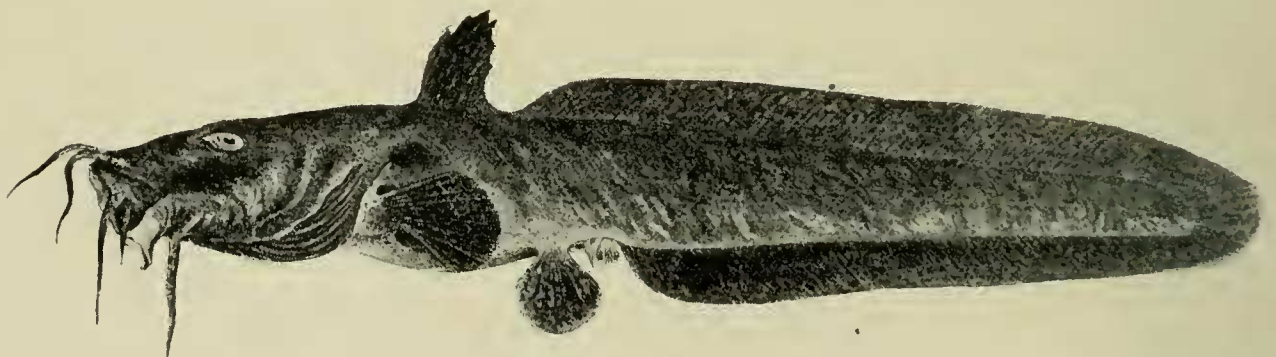


Fig. 67. *Cnidoglanis megastoma*.

A good-flavoured fish, but unsaleable owing to its prejudicial appearance, excepting at a nominal price to Asiatics. In our waters the fish is somewhat liable to a peculiar condition, in which the body is emaciated and the fins shrunken and hardened. Such a specimen appears to have been the foundation of Ogilby's *Ostophycephalus duriceps*.

TANDANUS Mitchell, 1838 (*tandanus*).**TANDANUS TANDANUS** Mitchell (Fresh-water Catfish, Pamori).

Plotosus (Tandanus) tandanus Mitch., Exped. Aust. (ed. i), i, 1838, p. 95, pl. v, fig. 2.

Copidoglanis tandanus Günth., Cat. Fish. Brit. Mus., v, 1864, p. 26; Stead, Fish. Aust., 1906, p. 39, pl. i.

Tandanus tandanus Roughley, Fish. Aust., 1916, p. 19, pl. ii.

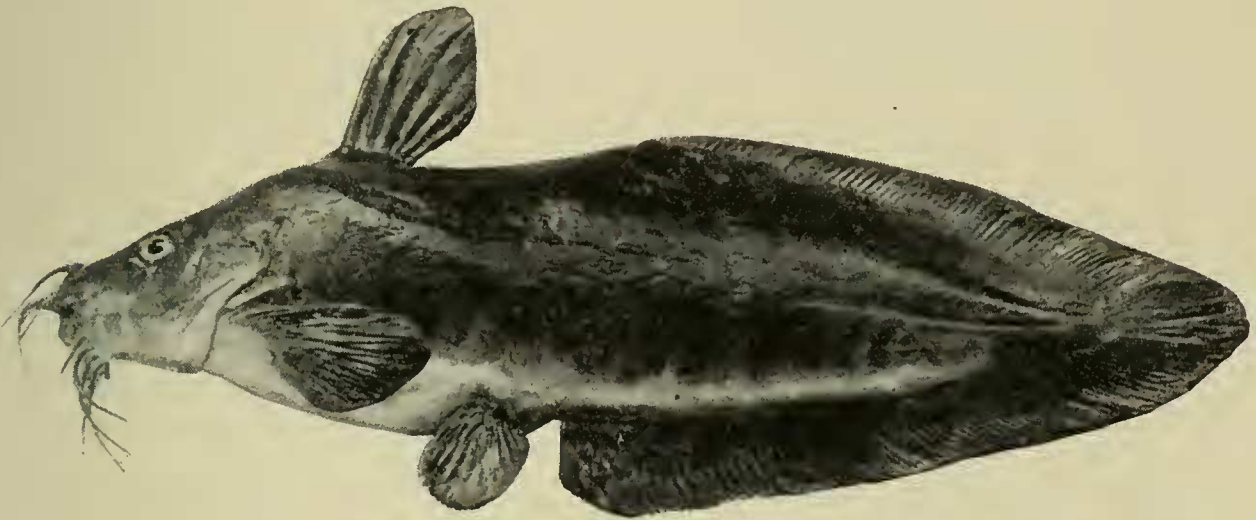


Fig. 68. *Tandanus tandanus*.

Said to be much better food than the Estuary Catfish, and frequently sold under some other name after removal of its tell-tale features. This fish makes a nest and guards its eggs.

NEOPLOTOSUS Castelnau, 1875 (*waterhousii*).**NEOPLOTOSUS WATERHOUSII** Castelnau (S. Australian Catfish).

Neoplotosus waterhousii Cast., Res. Fish. Aust., 1875, p. 45.

NEOSILURUS Steindachner, 1867 (*hyrtlil*).**NEOSILURUS HYRTLII** Steindachner (Central Australian Catfish).

Neosilurus hyrtlil Steind., Sitz. Akad. Wiss. Wien, lv, 1867, p. 14, pl. i, fig. 3.

Silurichthys australis Cast., Res. Fish. Aust., 1875, p. 45.

?*Neosilurus australis* Cast., P.L.S., N.S.W., ii, 1878, p. 239.

?*Cainosilurus australis* Macl., P.L.S., N.S.W., vi, 1881, p. 211.

Plotosus argenteus Zietz, Rep. Horn Exped., ii, 1896, p. 410, pl. xvi, fig. 7.

Neosilurus argenteus Zietz, T.R.S., S.A., xxxii, 1908, p. 296.

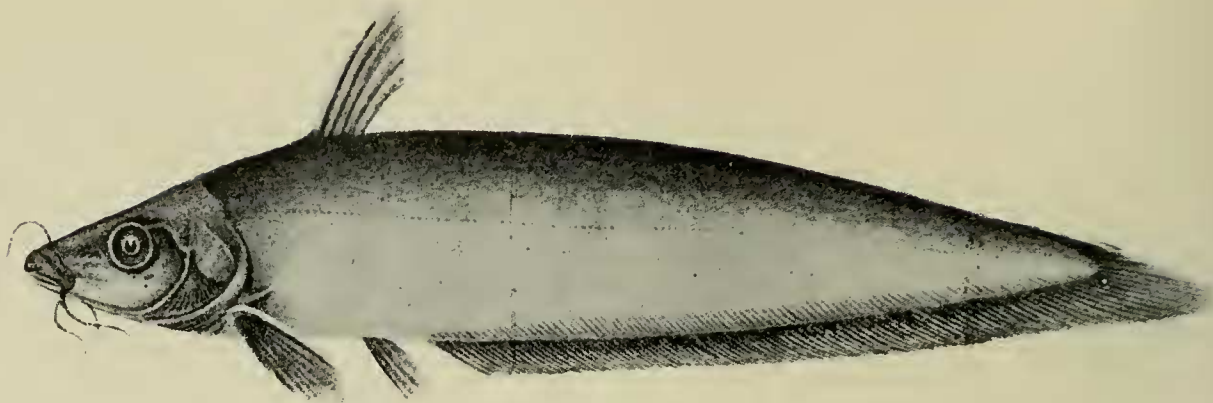


Fig. 70. *Ncosilurus hyrtlü*.

In the last quoted paper, Zietz erroneously presumed that *N. hyrtlü* has but six barbels. Castelnau's count of a similar number in his *N. australis* may be due to imperfections in the single specimen examined, or to his characteristic carelessness.

ORDER SYMBRANCHII.

FAMILY SYMBRANCHIDAE.

CHEILOBRANCHUS Richardson, 1845 (*dorsalis*).

CHEILOBRANCHUS RUFUS Macleay (*Shore Eel*).

Chilobranchnus rufus Macl., P.L.S., N.S.W., vi, 1881, p. 266; Waite, Rec. Aust. Mus., vi, 1906, p. 195, pl. xxxvi, fig. 1.

Symbranchus bengalensis Zietz, T.R.S., S.A., xxxii, 1908, p. 296 (not Bleek.).



Fig. 71. *Cheilobranchnus rufus*.

This little fish, the relationship of which is somewhat doubtful, is coloured green when alive; it changes to red in certain preservatives, hence the name *rufus*.

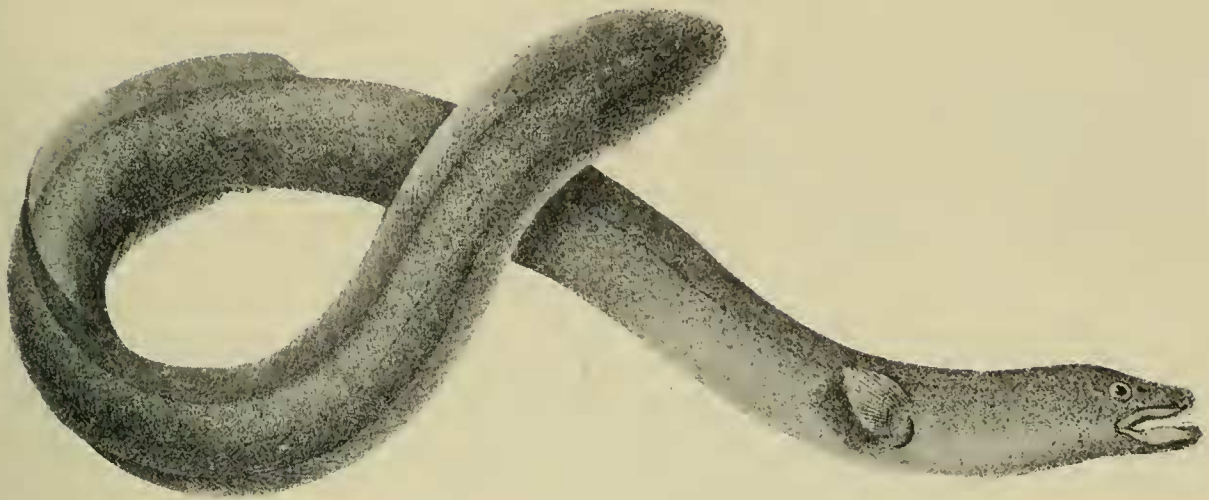
ORDER APODES.

FAMILY ANGUILLIDAE.

ANGUILLA Shaw, 1803 (*anguilla*).

ANGUILLA AUSTRALIS Richardson (*Short-finned Eel*).

Anguilla australis Rich., P.Z.S., 1841, p. 22 and Zool. Ereb. & Terr., 1848, p. 112, pl. xlv, fig. 1-6.

Fig. 72. *Anguilla australis*.

Eels are essentially marine fishes, and though this and the Long-finned Eel probably spend the greater part of their lives in fresh-water lakes or rivers, they descend to the sea for breeding purposes.

ANGUILLA REINHARDTII Steindachner (Long-finned Eel).

Anguilla reinhardtii Steind., Sitz. Akad. Wiss. Wien, lv, 1867, p. 15, text fig. (head); Ogil., Edib. Fish. N.S.W., 1893, p. 187 and P.L.S., N.S.W., xxii, 1898, p. 767; Stead, Edib. Fish. N.S.W., 1908, p. 31, pl. viii; Roughley, Fish. Aust., 1916, p. 22.

Fig. 73. *Anguilla reinhardtii*.

Not sufficiently appreciated as food, but its freedom from small bones is an estimable quality. "Have them spitch-cock'd—or stew'd—they're too oily when fried!"

FAMILY CONGRIDAE.

CONGER Houttuyn, 1764 (conger).

? **CONGER WILSONI** Bloch & Schneider (Conger Eel).

Gymnothorax wilsoni Bl. & Schm., Syst. Ichth., 1801, p. 529.

Conger wilsoni? Cast., P.Z.S., Vict., i, 1872, p. 193.

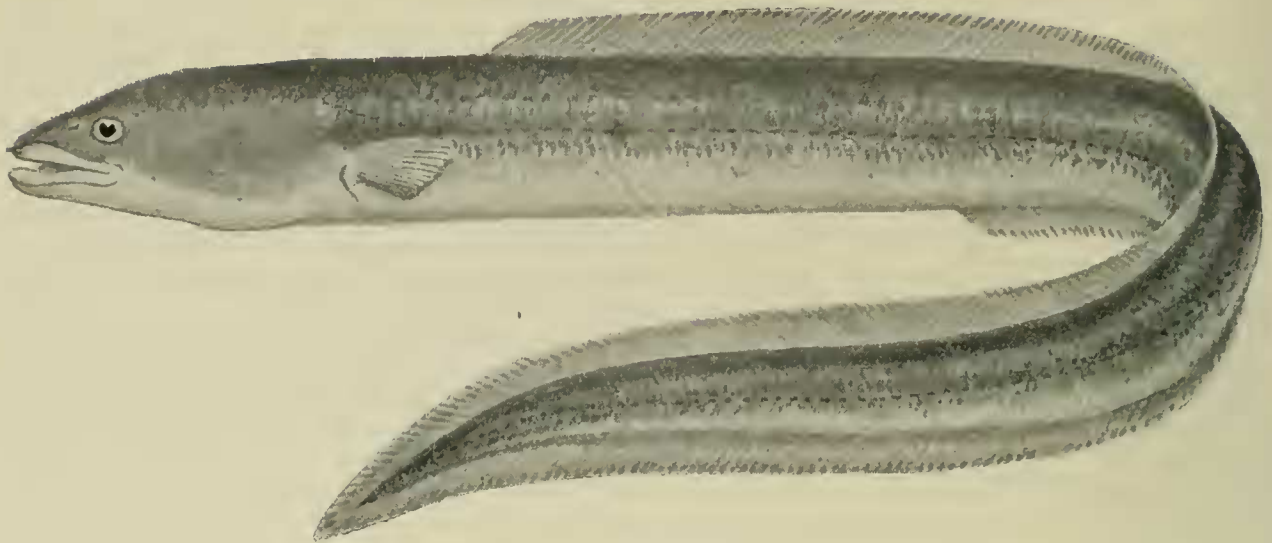


Fig. 74. ?*Conger wilsoni*.

Scarcely distinguishable from the European Conger, which is an excellent food fish and the foundation of the famous turtle soup, to which the turtle furnishes only the garnish and the name.

FAMILY ECHELIDAE.

MURAENICHTHYS Bleeker, 1853 (gymnopterus).

MURAENICHTHYS BREVICEPS Günther (Slender Eel).

?*Muraenichthys macropterus* Klunz., Arch. f. Naturg., xxxviii, 1872, p. 43 (not Bleek.).

Muraenichthys breviceps Günth., A.M.N.H., (4), xvii, 1876, p. 401; McCull., Endeavour Res., i, 1911, p. 21, fig. 7.

ORDER SOLENICHTHYES.

FAMILY MACRORHAMPHOSIDAE.

CENTRISCOPS Gill, 1862 (humerosus).

CENTRISCOPS HUMEROSUS Richardson (Bellows Fish).

Centriscus humerosus Rich., Zool. Ereb. & Terr., 1846, p. 56, pl. xxxiv, fig. 5, 6.

Centriscops humerosus Gill, Proc. Acad. Nat. Sci. Phil., 1862, p. 234 (footnote); McCull., Endeavour Res., ii, 1914, p. 90.

Centriscus (Limiculina) humerosus Fowl., Proc. Acad. Nat. Sci. Phil., lix, 1907, p. 425.

Centriscops humerosus var. *obliquus* Waite, Rec. Caut. Mus., i, 1911, p. 170, pl. xxvi.

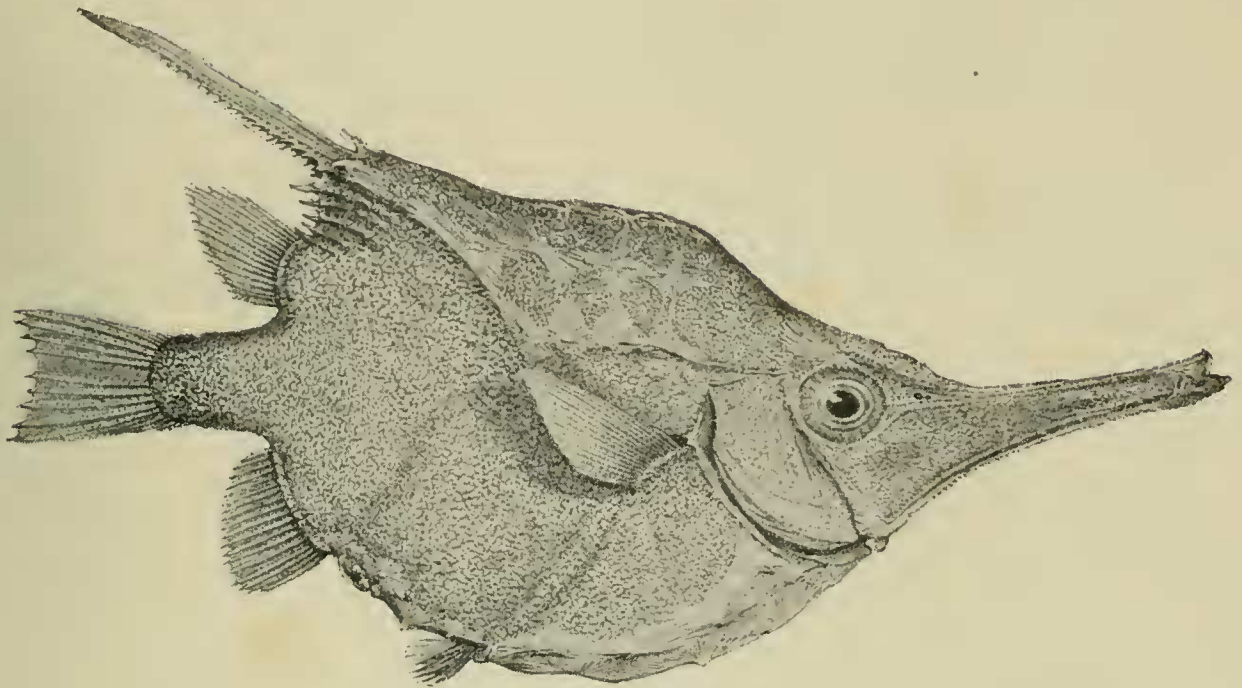


Fig. 76. *Centriscops humerosus*.

None of the members of this Order is of economic value.

FAMILY SYNGNATHIDAE.

SYNGNATHUS Linnaeus, 1758 (acus).

SYNGNATHUS POECILOLAEMUS Peters (Long-snouted Pipefish).

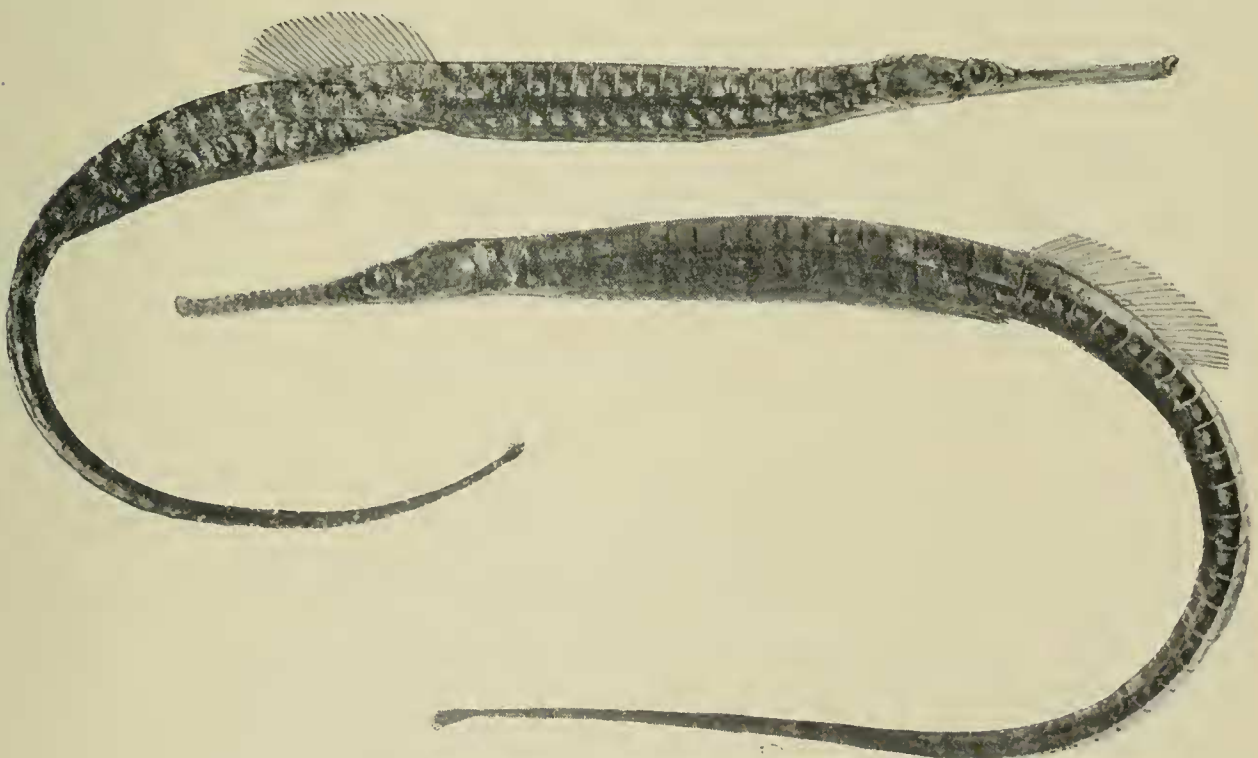


Fig. 77. *Syngnathus poecilolaemus*, male and female.

Syngnathus poccilolaemus Peters, Monatsb. Akad. Wiss. Berlin, 1869, p. 458; Dunck., Faun. Südwest Aust., ii, 1909, p. 245; Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 295, fig. 39.

Syngnathus modestus Sauv., Bull. Soc. Phil. (7), iii, 1879, p. 209 (not Günth.), *Corythoichthys poccilolaemus* McCull., Rec. W. Aust. Mus., i, 1912, p. 82, fig. 2.

SYNGNATHUS PHILLIPI Lucas (Medium-snouted Pipefish).

Syngnathus phillipi Lucas, P.R.S., Viet. (2), iii, 1891, p. 12; Dunck., Faun. Südwest Aust., ii, 1909, p. 245; Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 297, fig. 40.

Corythoichthys phillipi McCull., Endeavour Res., i, 1911, p. 26, fig. 10.

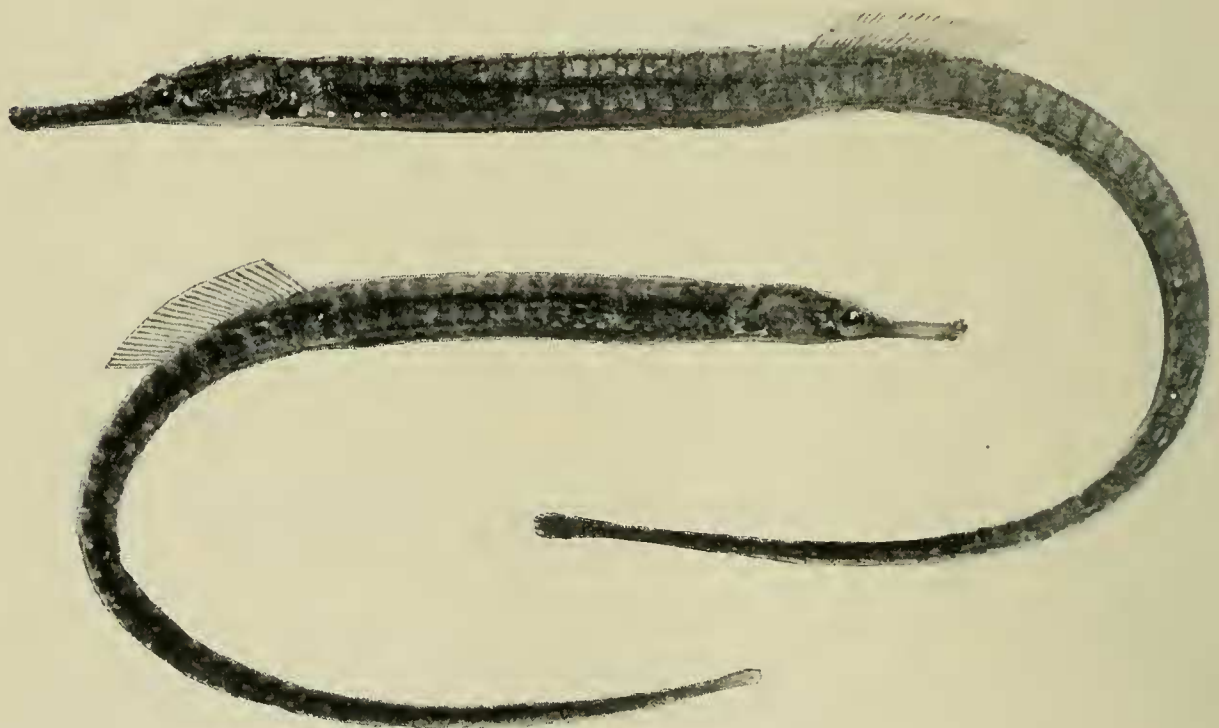


Fig. 78. *Syngnathus phillipi*, male and female.

SYNGNATHUS VERCOI Waite & Hale (Little Pipefish).

Ichthyocampus filum Zietz, T.R.S., S.A., xxxii, 1908, p. 298 (not Günth.).

Syngnathus vercoi Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 208, fig. 41.

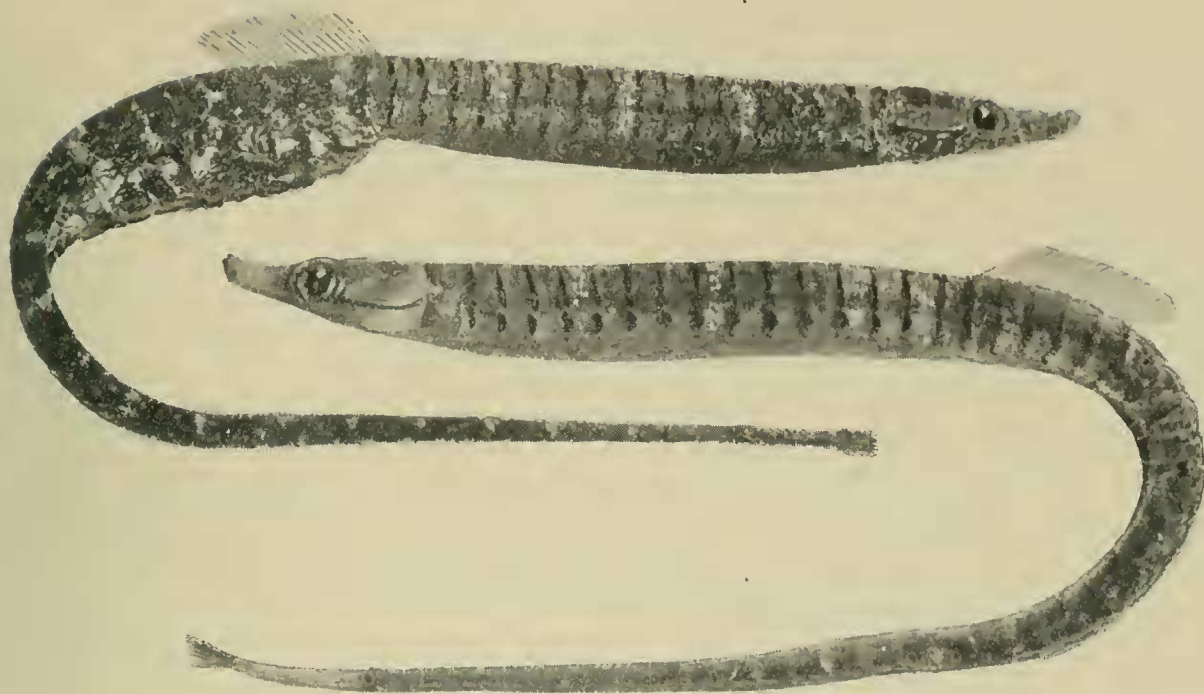


Fig. 79. *Syngnathus vereci*, male and female.

SYNGNATHUS CURTIROSTRIS Castelnau (Short-snouted Pipefish).

Syngnathus curtirostris Cast., P.Z.S., Viet., i, 1872, p. 243 and ii, 1873, p. 79; Dunek., Faun. Südwest Aust., ii, 1909, p. 244; McCull & Waite, Rec. S. Aust. Mus., i, 1918, p. 39, pl. v, fig. 1; Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 300, fig. 42.

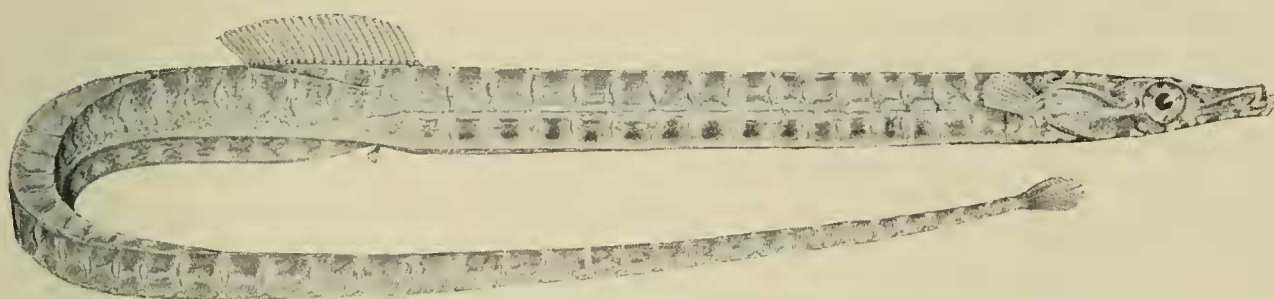


Fig. 80. *Syngnathus curtirostris*.

LEPTONOTUS Kaup, 1853 (*blainvillianus*).

LEPTONOTUS COSTATUS Waite & Hale (Deep-bodied Pipefish).

Leptonotus costatus Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 301, fig. 43.

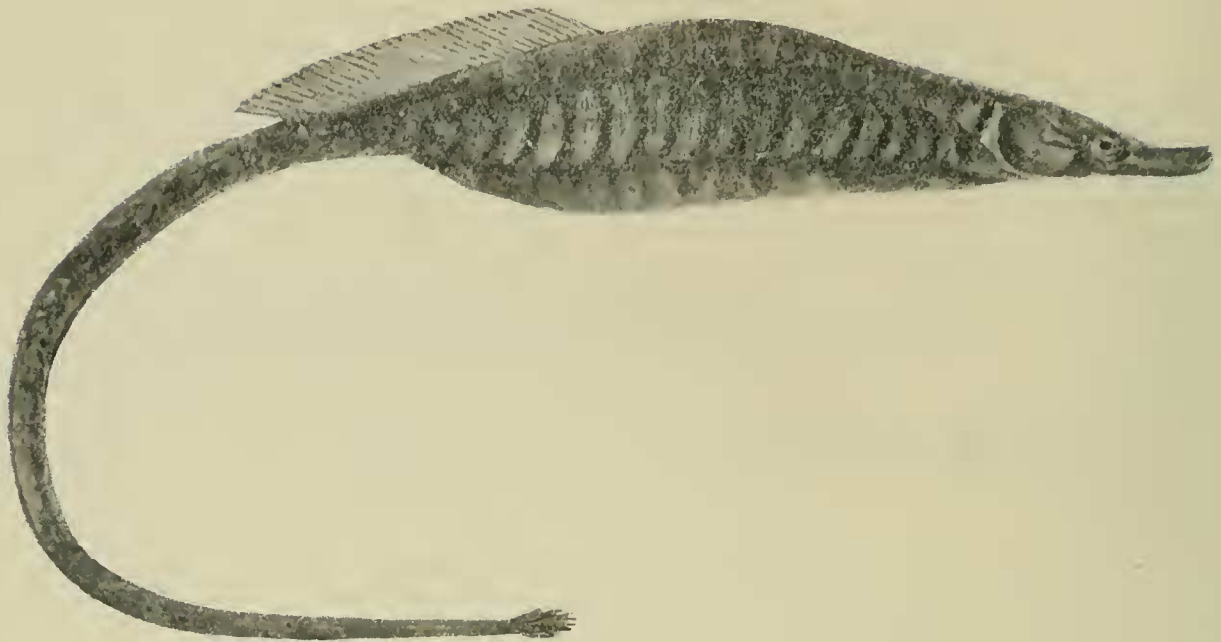


Fig. 81. *Leptonotus costatus*.

HISTIOGAMPHELUS McCulloch, 1914 (*briggsii*).

HISTIOGAMPHELUS ROSTRATUS Waite & Hale (Knife-snouted Pipefish).

Syngnathus semifasciatus Zietz. T.R.S., S.A., xxxii, 1908, p. 298 (not Günth.).

Doryichthys heterosoma Zietz. *op. cit.*, p. 299 (not Bleek.).

Histiogampelus rostratus Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 303, fig. 44.

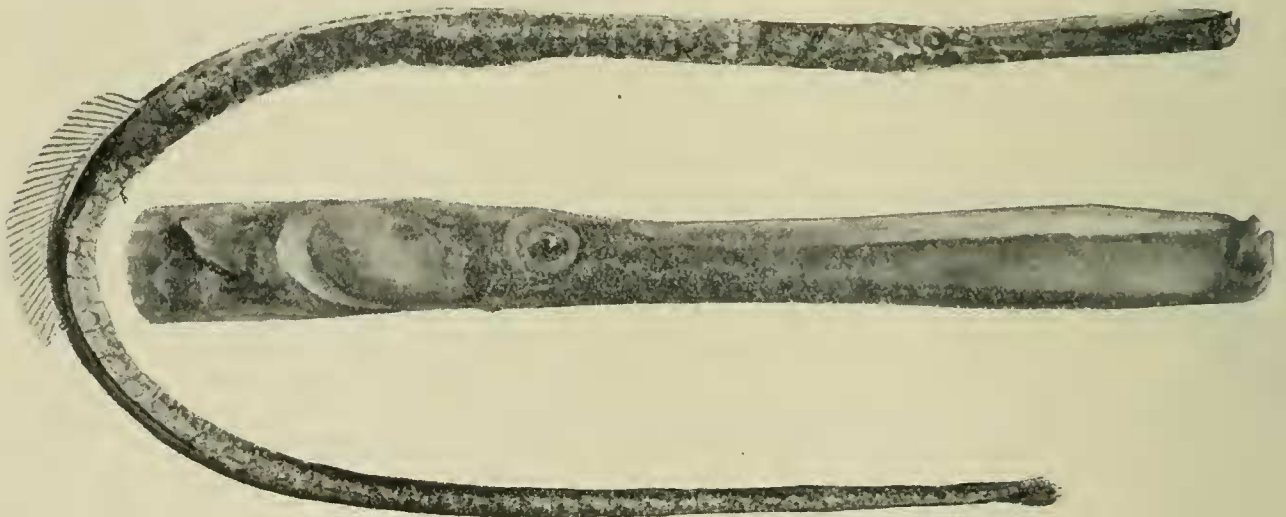


Fig. 82. *Histiogampelus rostratus*.

ICHTHYOCAMPUS Kaup, 1853 (*belcheri*).

ICHTHYOCAMPUS CRISTATUS McCulloch & Waite (Crested Pipefish).

Ichthyocampus cristatus McCull. & Waite. Rec. S. Aust. Mus., i, 1918, p. 40.

fig. 26; Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 304, fig. 45.

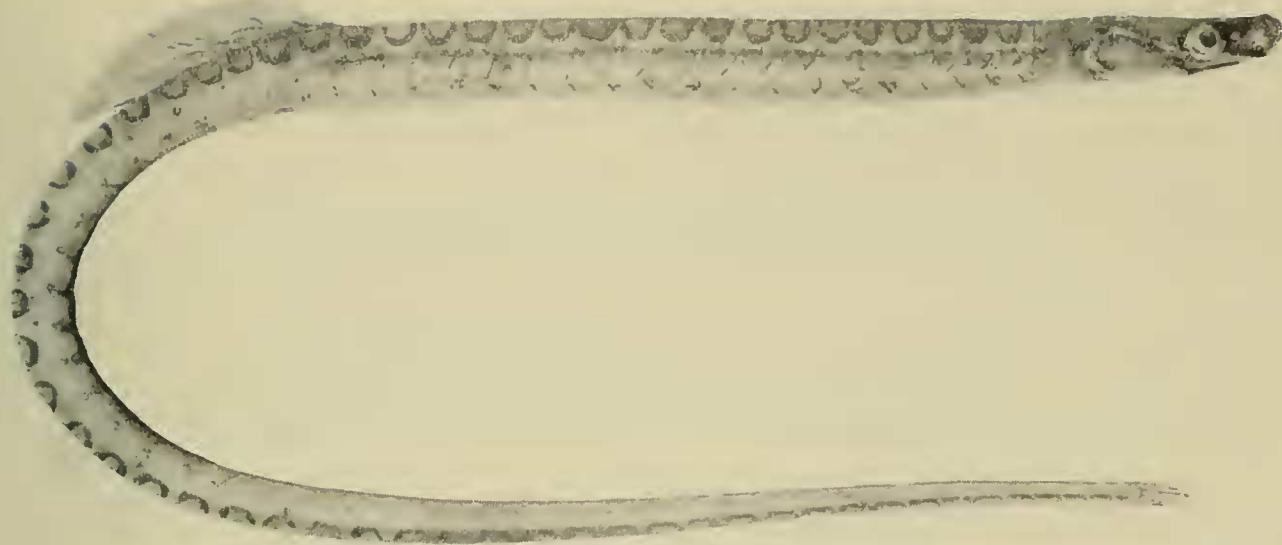


Fig. 83. *Ichthyocampus cristatus*.

LISSOCAMPUS Waite & Hale, 1921 (caudalis).

LISSOCAMPUS CAUDALIS Waite & Hale (Smooth Pipefish).

Lissocampus caudalis Waite & Hale, Rec. S. Aust., Mus., i, 1921, p. 306, fig. 46.

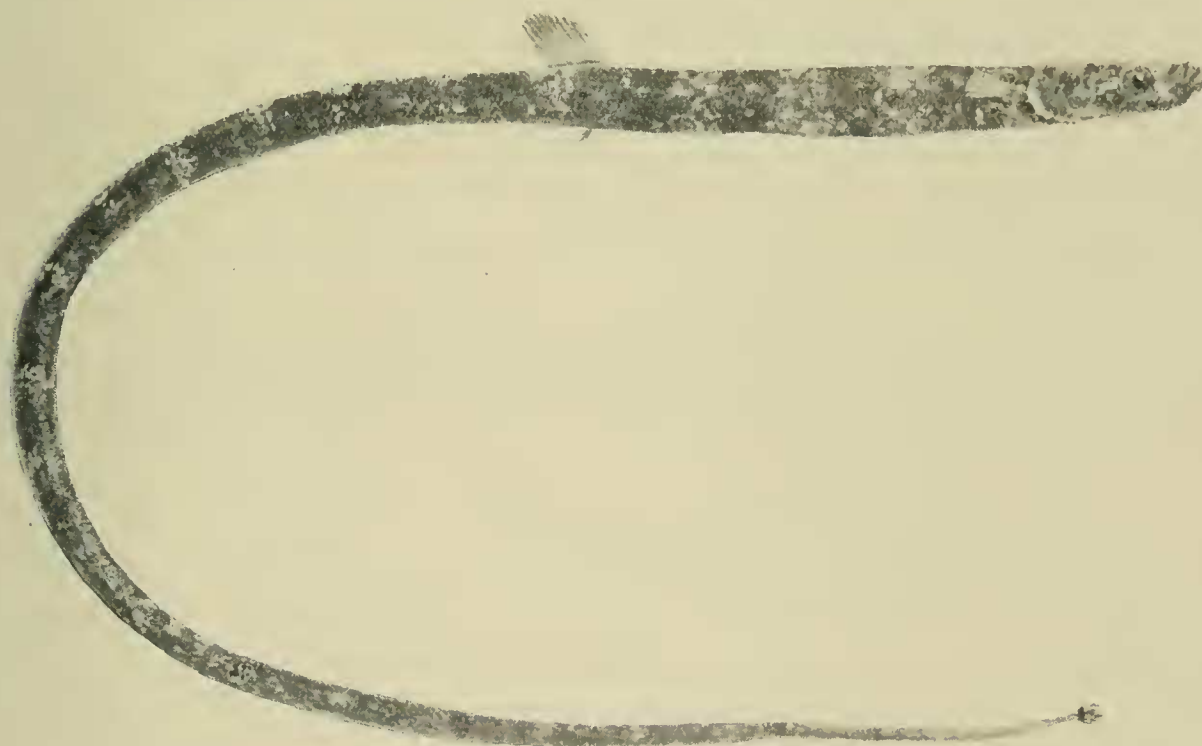


Fig. 84. *Lissocampus caudalis*.

LEPTOICHTHYS Kaup, 1853 (fistularius).

LEPTOICHTHYS FISTULARIUS Kaup (Brush-tailed Pipefish).

Leptoichthys fistularius Kaup, Arch. f. Naturg., xix, 1853, p. 232 and Cat. Lophob., 1856, p. 52; Dunck., Faun. Südwest Aust., ii, 1909, p. 234; Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 307, fig. 47.

Leptoichthys castelnaui Mael., P.L.S., N.S.W., vi, 1881, p. 295.

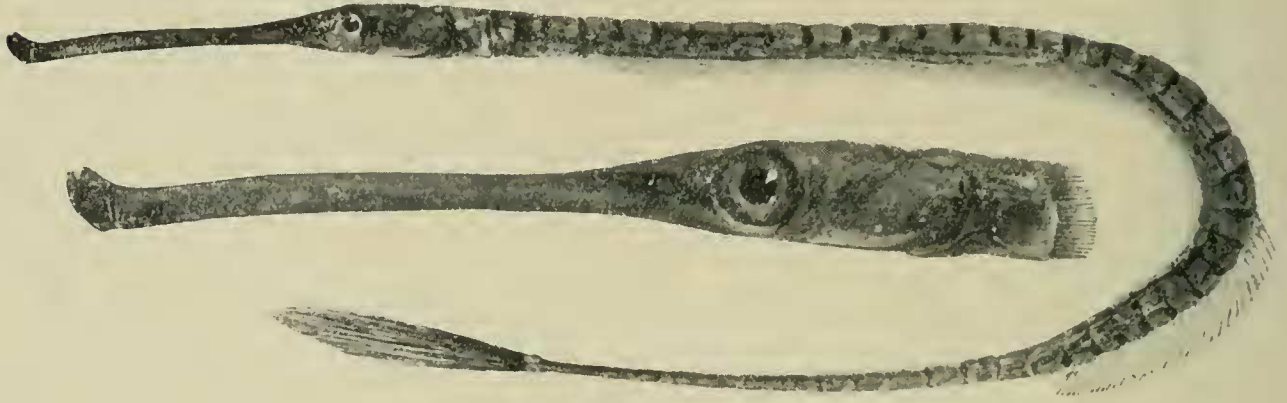


Fig. 85. *Leptoichthys fistularius*.

STIGMATOPORA Kaup, 1853 (*argus*).

STIGMATOPORA ARGUS Richardson (*Spotted Pipefish*).

Syngnathus argus Rich., P.Z.S., 1840, p. 29 and T.Z.S., iii, 1849, p. 183, pl. vii, fig. 2.

Stigmatophora argus Kaup, Arch. f. Naturg. xix, 1853, p. 233 and Cat. Lophob., 1856, p. 53; Dunck., Fauna Südwest Aust., ii, 1909, p. 239; Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 308, fig. 48.

Stigmatophora olivacea Cast., P.Z.S., Viet., i, 1872, p. 244 and ii, 1873, p. 77; Ogil., Mem. Qld. Mus., i, 1912, p. 36.

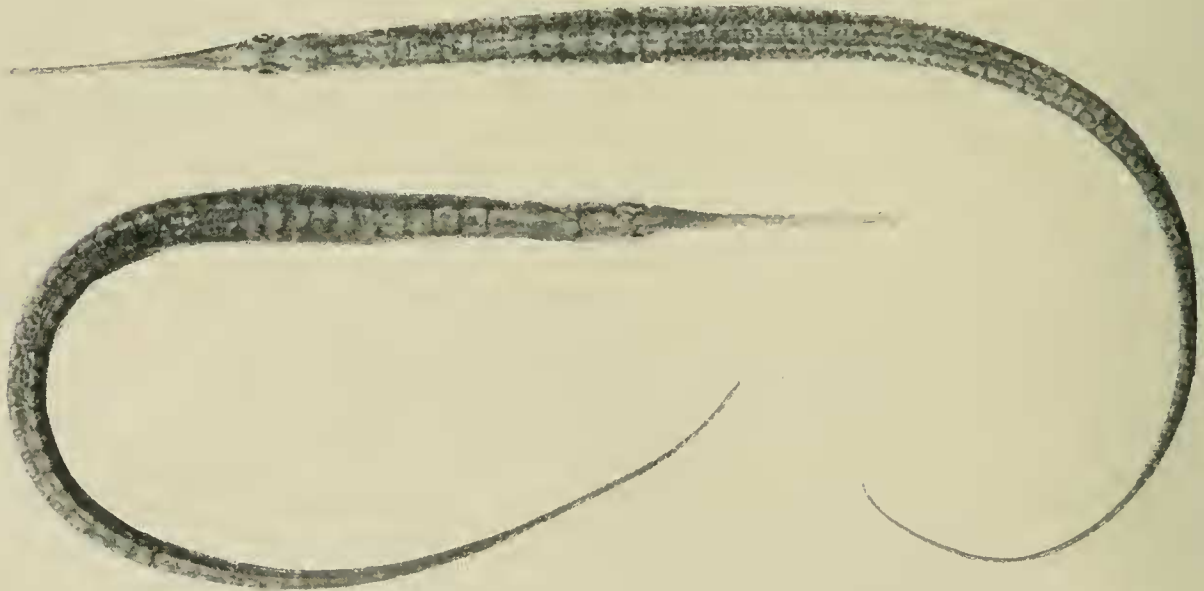


Fig. 86. *Stigmatopora argus*, female and male.

Gastrotokeus gracilis Klunz., Arch. f. Naturg., xxxviii, 1872, p. 44.

Stigmatophora unicolor Cast., Res. Fish. Aust., 1875, p. 49.

Stigmatophora depressiuscula and *S. gracilis* Mael., P.L.S., N.S.W., vi, 1882, p. 299.

Stigmatophora argus var. *brericaudata* Lucas, P.R.S., Vict., iii (n.s.), 1891, p. 14.

STIGMATOPORA NIGRA Kaup (Wide-bodied Pipefish).

Stigmatopora nigra Kaup, Arch. f. Naturg., xix, 1853, p. 233 and Cat. Lophob., 1856, p. 53; Dunck., Fauna Südwest Aust., ii, 1909, p. 239; McCull., Aust. Zool., i, 1914, p. 29, fig. 1, 2, 3 (portions); Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 311, fig. 49.

Stigmatophora boops Cast., P.Z.S., Vict., i, 1872, p. 203.

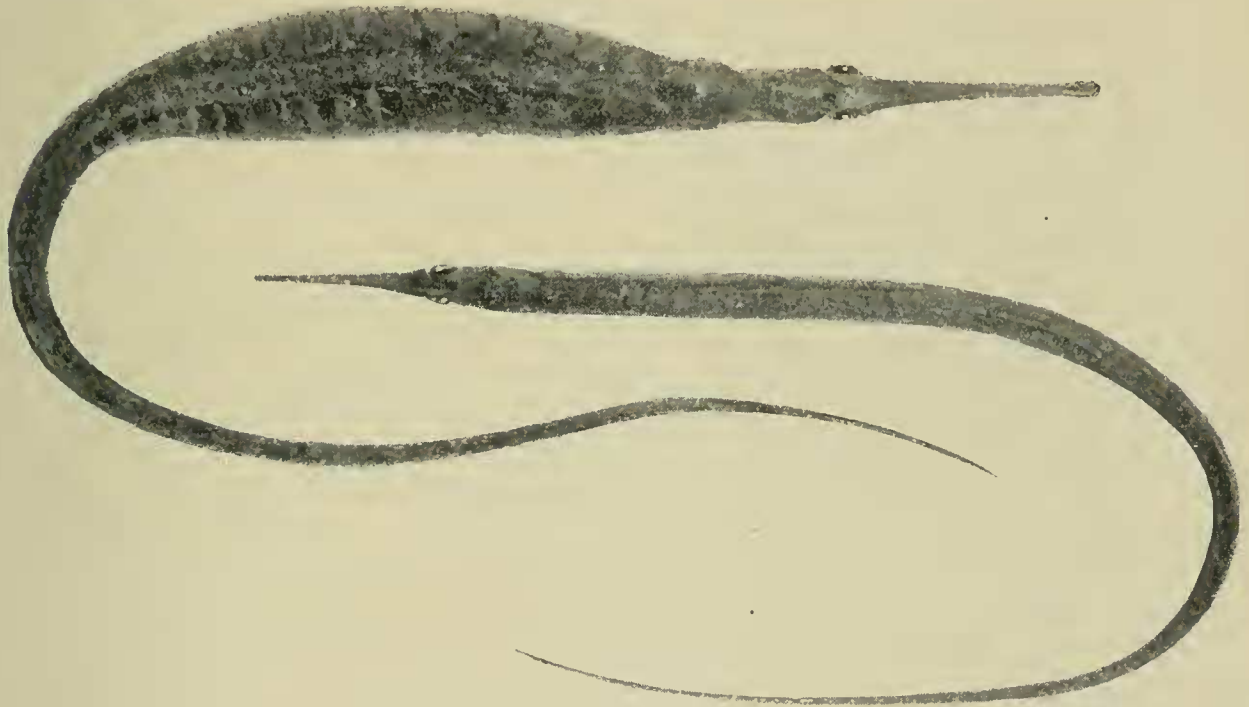


Fig. 87. *Stigmatopora nigra*, female and male.

SOLEGNATHUS Swainson, 1839 (*hardwickii*).

SOLEGNATHUS ROBUSTUS McCulloch (Pipe-horse).

Solenognathus spinosissimus Zietz, T.R.S., S.A., xxxii, 1908, p. 299 (not Günth.).



Fig. 88. *Solegnathus robustus*.

Solegnathus robustus McCull., Endeavour Res., i, 1911, p. 28, pl. ix, fig. 2: Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 312, fig. 50.

PHYLLOPTERYX Swainson, 1839 (foliatus).

PHYLLOPTERYX FOLIATUS Shaw (Common Sea Dragon).

Syngnathus foliatus Shaw, Gen. Zool., v, 1804, p. 456, pl. clxxx.



Fig. 89. *Phyllopteryx foliatus*, male with eggs.

Syngnathus taeniopterus Lacép., Ann. Mus., iv, 1804, p. (184-211), pl. lviii, fig. 3.

Phyllopteryx foliatus Swains., Nat. Hist. Fish., ii, 1839, p. 332, fig. 109; Günth., P.Z.S., 1865, p. 327, pl. xiv; McCoy, Prod. Zool. Vict., dec. vii, 1882, pl. lxx, fig. 1; Dunek., Faun. Südwest Aust., ii, 1909, p. 236; Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 313, fig. 51.

Phyllopteryx elongatus Cast., P.Z.S., Vict., i, 1872, p. 243 and ii, 1873, p. 70.

Phyllopteryx altus McCoy, Prod. Zool. Vict., dec. vii, 1882, p. 20.

Males of the Pipe-fishes, Sea-horses, and other forms comprising the Order Lophobranchii, carry the eggs glued to the underside of the body or tail, or in a more or less perfect pouch developed thereon. The accompanying photograph of a male Sea-dragon shows a complement of eggs attached to the underside of the tail.

PHYLLOPTERYX EQUUS Günther (Leafy Sea Dragon).



Fig. 90. *Phyllopteryx eques*.

Phyllopteryx eques Günth., P.Z.S., 1865, p. 327, pl. xv; Dunck., Faun. Südwest Aust., ii, 1909, p. 237; Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 315, fig. 52.
Phycodurus eques Gill, Proc. U.S. Nat. Mus., xviii, 1895, p. 159.

ACENTRONURA Kaup, 1853 (*gracilissima*).

ACENTRONURA AUSTRALE Waite & Hale (Little Pipe-horse).

Acentronura australe Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 317, fig. 53.

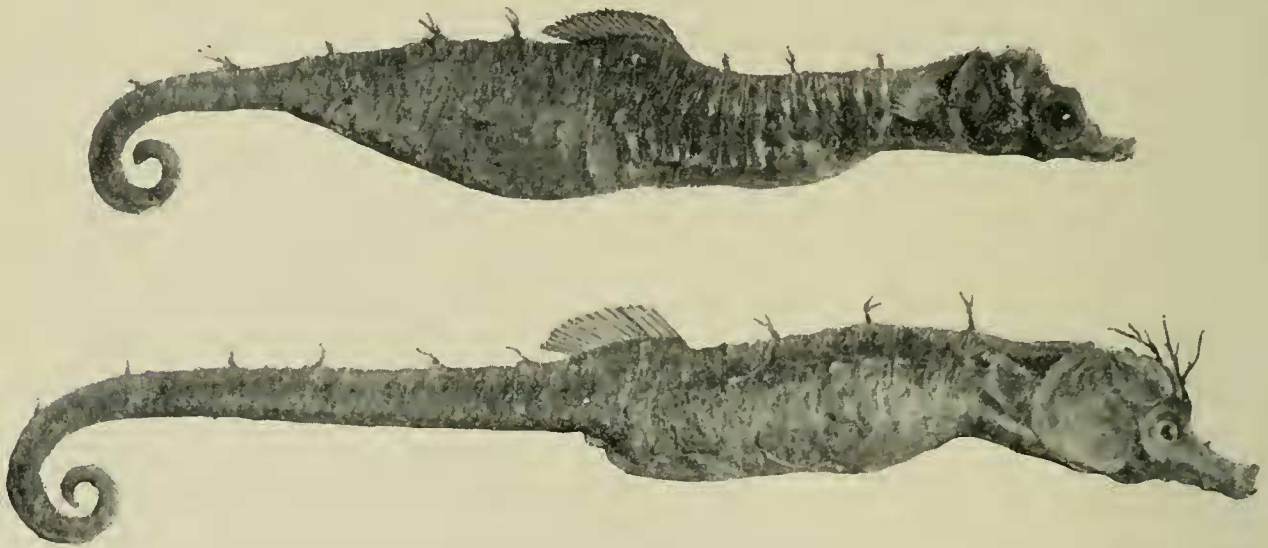


Fig. 91. *Acentronura australe*, male and female.

HIPPOCAMPUS Rafinesque, 1810 (*hippocampus*).

HIPPOCAMPUS ABDOMINALIS Lesson (Sea-horse).

Hippocampus abdominalis Less., in Ferussac, Bull. Sci. Nat., xi, 1827, p. 127; Bleek., Verh. Akad. Wetens. Amsterd., ii, 1855, p. 48, pl. fig. 4; Kaup, Cat. Lophob., 1856, p. 17, pl. iii, fig. 3; Dunck., Faun. Südwest Aust., ii, 1909, p. 247; Waite, Rec. Cant. Mus., i, 1911, p. 175, pl. xxviii; McCull., Endeavour Res., i, 1911, p. 29, pl. vi, fig. 1; Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 319, fig. 54.

Hippocampus graciliformis McCull., Endeavour Res., i, 1911, p. 29, pl. vi, fig. 2.

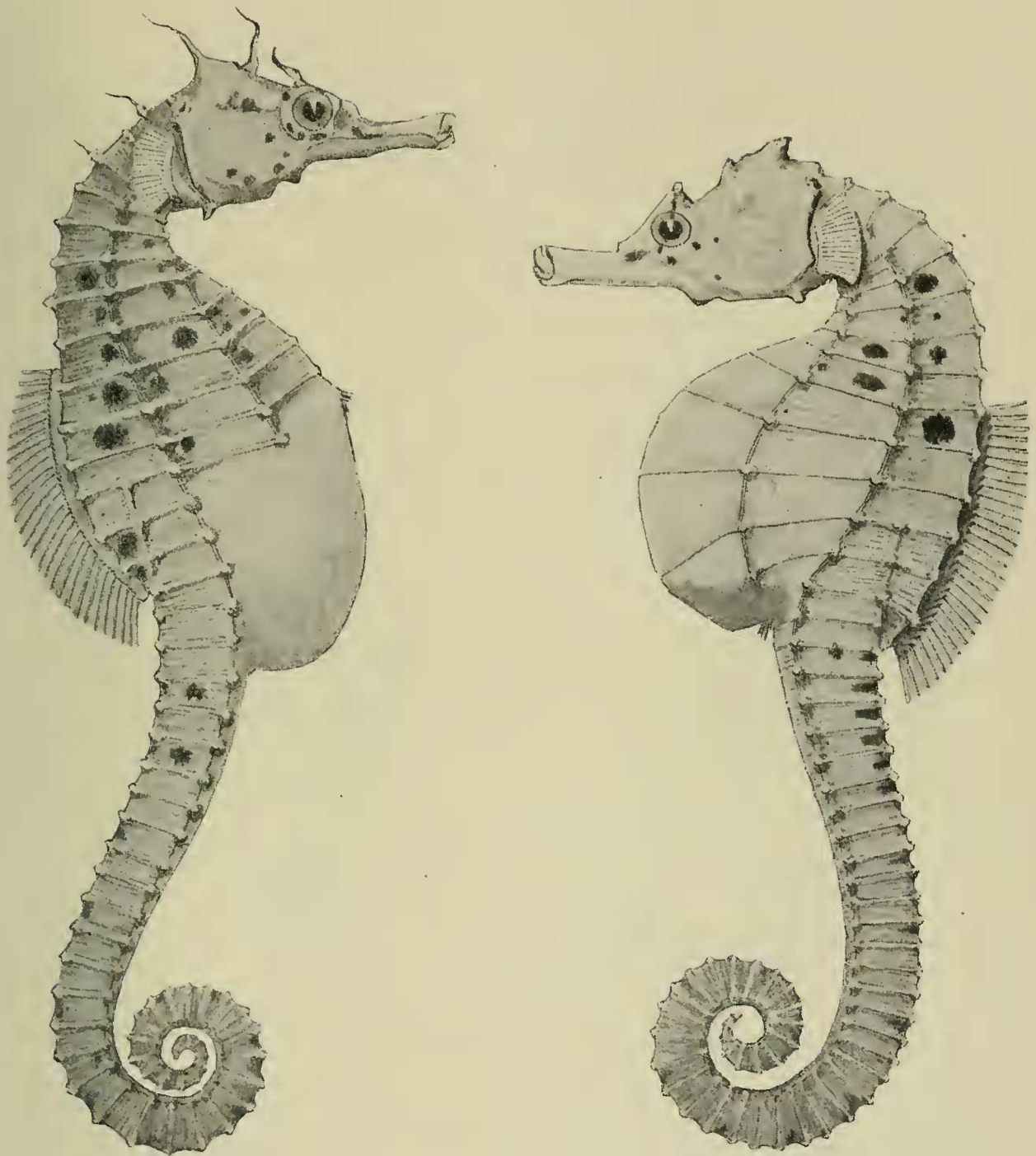


Fig. 92. *Hippocampus abdominalis*, male and female.

HIPPOCAMPUS NOVAE-HOLLANDIAE Steindachner (Common Sea-horse).

Syngnathus hippocampus Shaw, in White's Voy. N.S.W., 1790, p. 295, pl. 1, fig. 2 (not Linn.).

Hippocampus novae-hollandiae Steind., Sitzb. Akad. Wiss. Wien. liii, 1866, p. 474, pl. i, fig. 2; Dunck., Faun. Südwest Aust., ii, 1909, p. 248; Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 320, fig. 55.

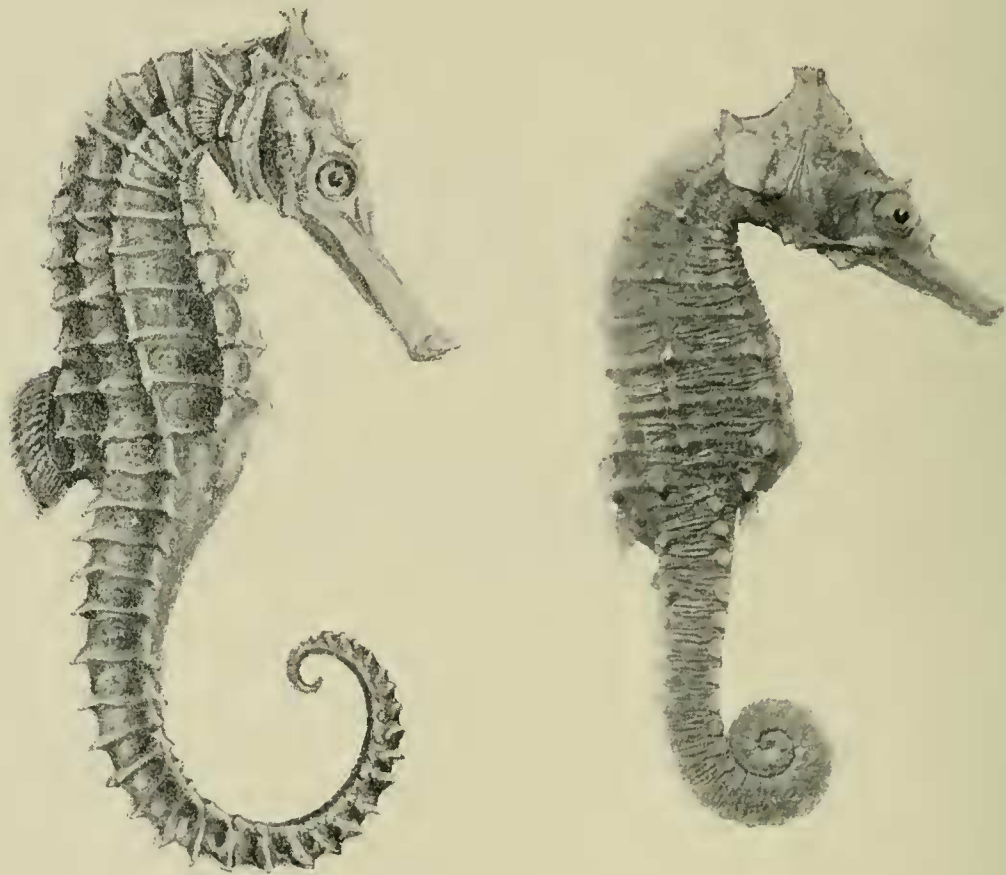


Fig. 93. *Hippocampus novae-hollandiae*, male and female.

HIPPOCAMPUS BREVICEPS Peters (Short-headed Sea-horse).

Hippocampus breviceps Peters, Mon. Akad. Wiss. Berlin, 1869, p. 710; McCoy, Prod. Zool. Viet., dec. vii, 1882, pl. lxxv, fig. 2; Dunck., Faun. Südwest Aust., ii, 1909, p. 247; Waite & Hale, Rec. S. Aust. Mus., i, 1921, p. 321, fig. 56.

Hippocampus tuberculatus Cast., Res. Fish, Aust., 1875, p. 48.

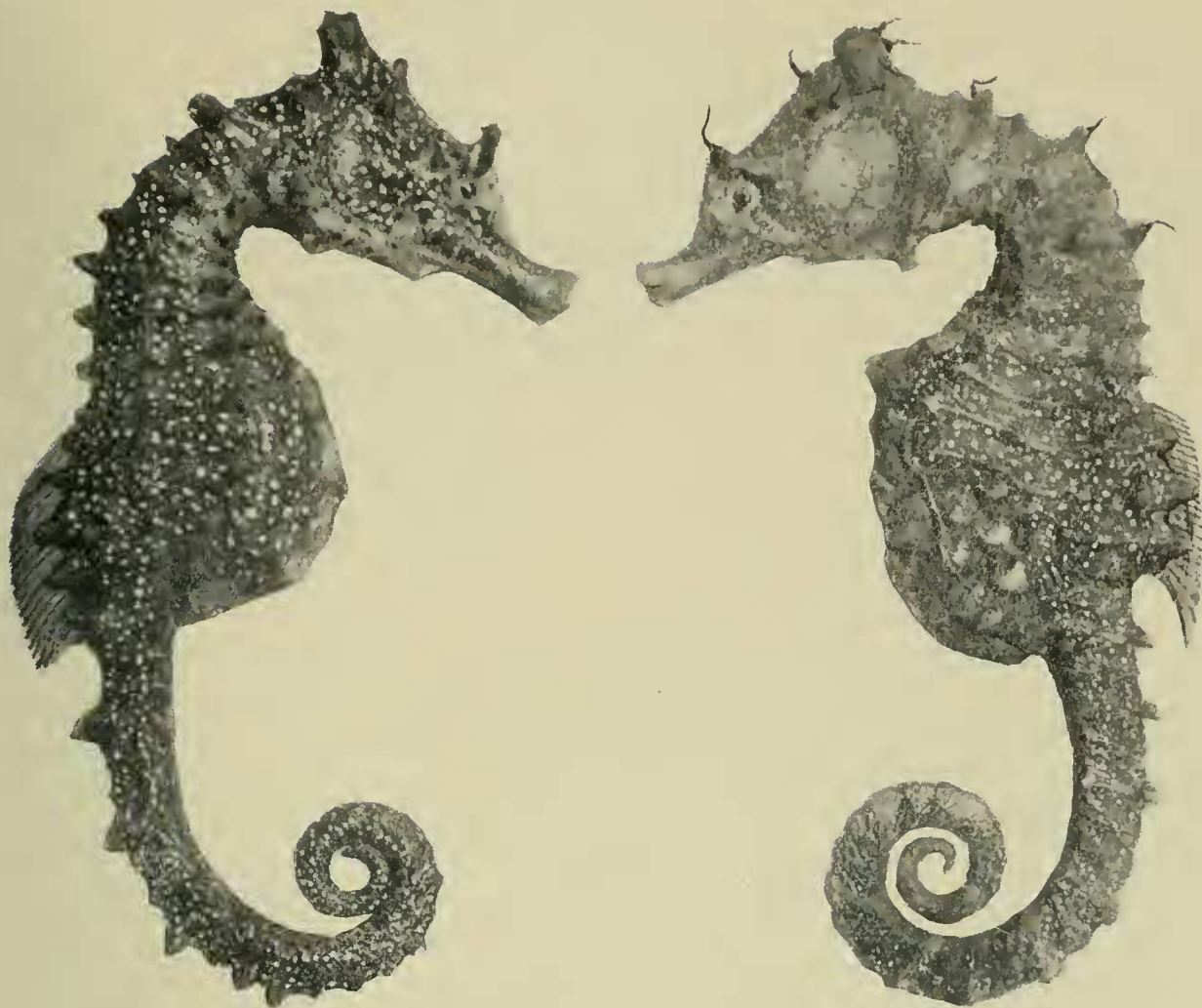


Fig. 94. *Hippocampus breviceps*, male and female.

ORDER HYPOSTOMIDES.

FAMILY PEGASIDAE.

ACANTHOPEGASUS McCulloch, 1915 (*lancifer*).

ACANTHOPEGASUS LANCIFER Kaup.

Pegasus natans Kaup, Cat. Lophob., 1856, p. 4, pl. i, fig. 2 (not Linn.).

Pegasus lancifer Kaup, Arch. f. Naturg., xxii, 1861, p. 116, 117.

Parapegasmus lancifer Dum., Hist. Nat. Poiss., ii, 1870, p. 294.

Acanthopegasmus lancifer McCull., Endeavour Res., iii, 1915, p. 106, fig. 1.

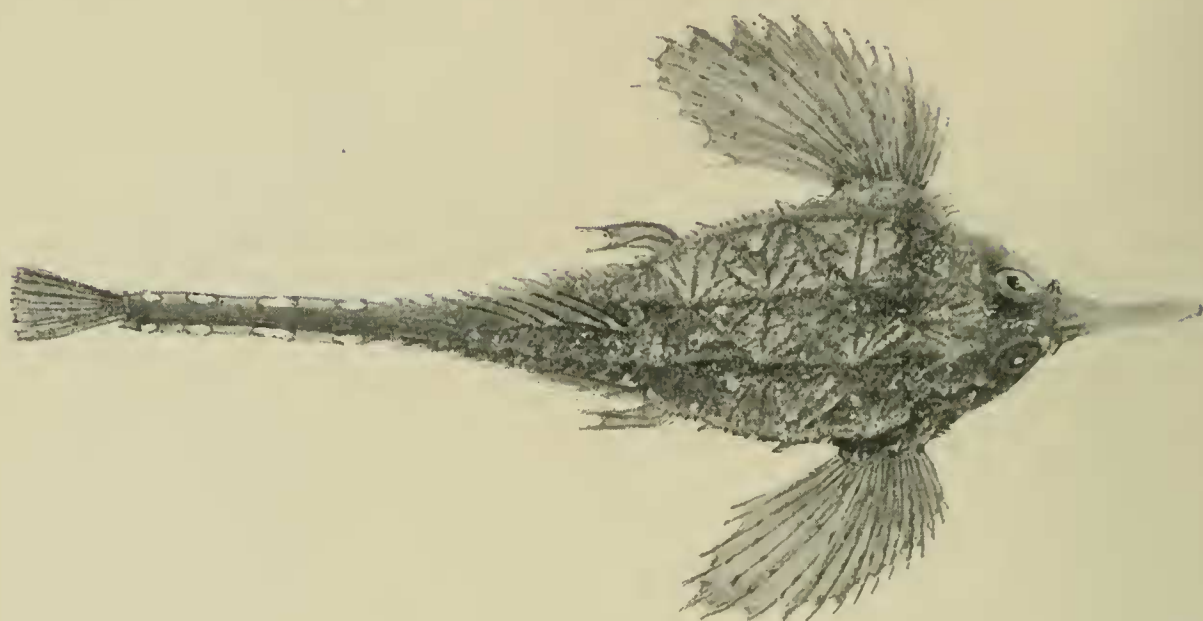


Fig. 95. *Acanthopogon laticifer*.

ORDER SYNENTOGNATHI.

FAMILY SCOMBRESOCIDAE.

SCOMBRESOX Lacepède, 1803 (*camperii*).

SCOMBRESOX FORSTERI Cuvier & Valenciennes (Billfish, Skipper).

Scombresox forsteri Cuv. & Val., Hist. Nat. Poiss., xviii, 1846, p. 481.

Scombresox saurus var. *forsteri* McCoy, Prod. Zool. Vict., dec. xiv, 1887, pl. cxxxv, fig. 2.



Fig. 96. *Scombresox forsteri*.

Frequently netted with Garfishes, to which it is allied.

FAMILY EXOCOETIDAE.

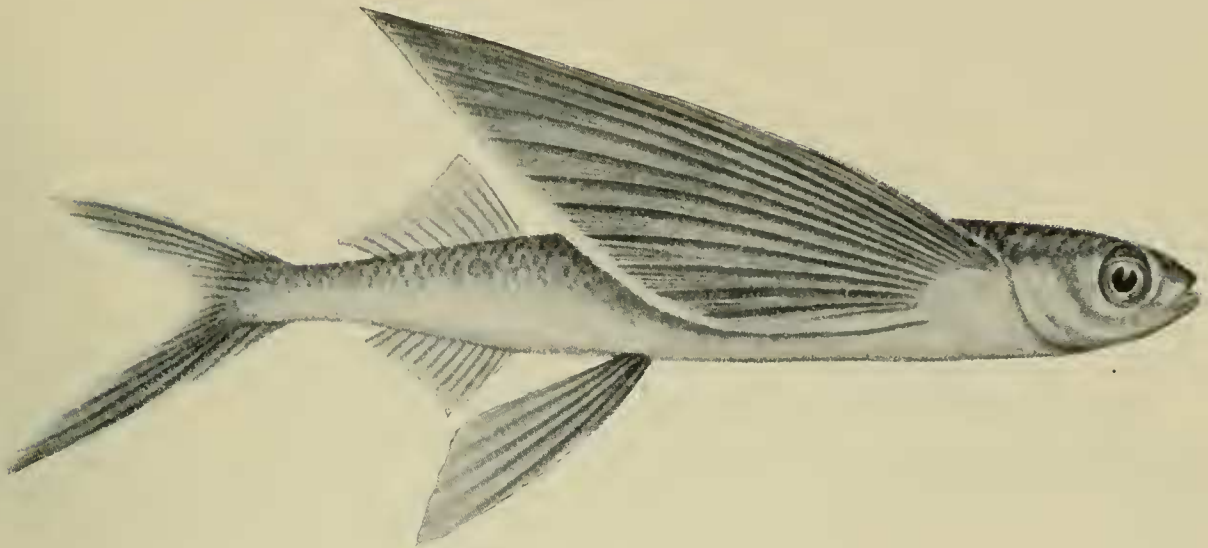
CYSELURUS Swainson, 1839 (*nuttalii*).

CYSELURUS CRIBROSUS Kner (Flying Fish).

Erocoetus unicolor? Cuv. & Val., vel *cribrosa* Kner, Reise Novara, i, 1867, p. 325 (not Cuv. & Val.).

Exonantes fulvipes and *E. cribrosus* Ogil., P.R.S., Qld., xxi, 1908, p. 8, 13.

Cypselurus cribrosus McCull., Mem. Qld. Mus., v, 1916, p. 59, pl. vii.

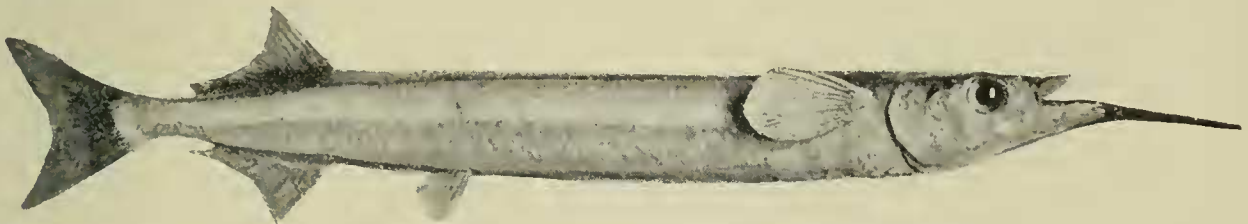
Fig. 97. *Cypselurus cribrerosus*.

FAMILY HEMIRHAMPHIDAE.

HYPORHAMPHUS Gill, 1859 (*tricuspidatus*).**HYPORHAMPHUS INTERMEDIUS** Cantor (Garfish).

Hemirhamphus intermedius Cant., A.M.N.H., ix, 1842, p. 485; McCoy, Prod. Zool. Viet., dec. xiv, 1887, pl. cxxxv, fig. 1; Ogil., Edib. Fish. N.S.W., 1893, p. 172, pl. xlii; Roughley, Fish. Aust., 1916, p. 27, pl. iv.

Hemirhamphus melanochir Cuv. & Val., Hist. Nat. Poiss., xix, 1846, p. 41.

Fig. 98. *Hyporhamphus intermedius*.

A recognized breakfast fish and would be more appreciated but for the presence of small hair-like bones.

ORDER ANACANTHINI.

FAMILY MACROURIDAE.

NEMATONURUS Günther, 1887 (*armatus*).**NEMATONURUS ARMATUS** Hector.

Macrurus armatus Hect., A.M.N.H. (4), xv, 1875, p. 81 and T.N.Z. Inst., vii, 1875, p. 249, pl. xi, fig. 78a.

Coryphaenoides variabilis Günth., A.M.N.H. (5), ii, 1878, p. 27.

Nematonurus armatus Günth., Chall. Rep., xxii, 1887, p. 150, pl. xl, fig. A.

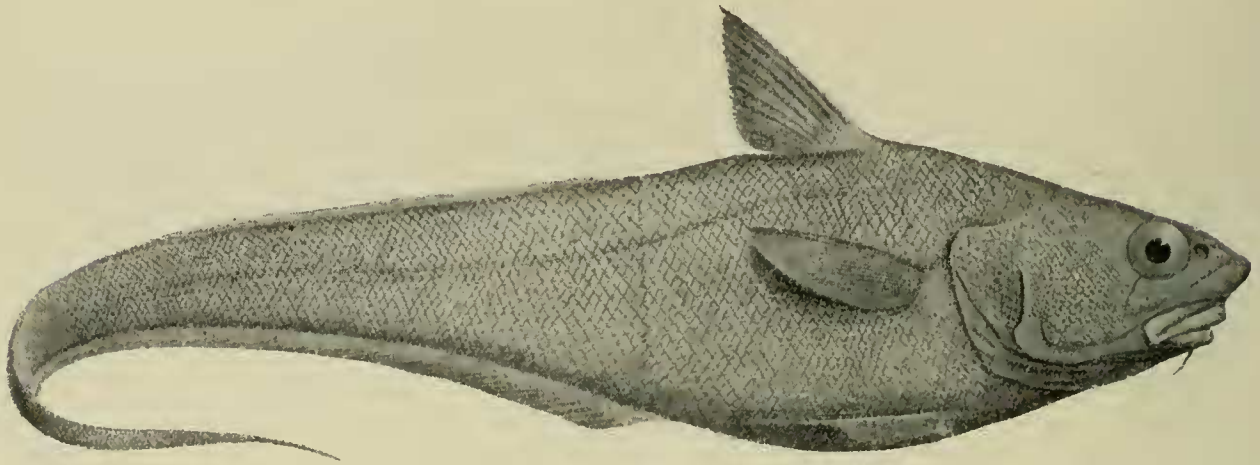


Fig. 99. *Nematonurus armatus*.

This and the following species are known only from very deep water.

OPTONURUS Günther, 1887 (*denticulatus*).

OPTONURUS DENTICULATUS Richardson.

Macrourus denticulatus Rich., Zool. Ereb. & Terr., 1848, p. 53, pl. xxxii, fig. 1-3.

Coryphaenoides denticulatus Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 396.

Optonurus denticulatus Günth., Chall. Rep., xxii, 1887, p. 147.

FAMILY GADIDAE.

LOTELLA Kaup, 1858 (*phycis*).

LOTELLA CALLARIAS Günther (*Beardie*).

Lotella callarias Günth., A.M.N.H. (3), xi, 1863, p. 116; McCoy, Prod. Zool.

Viet., dec. ii, 1878, pl. xix; Ogil., Edib. Fish. N.S.W., 1893, p. 152, pl. xxxvii;

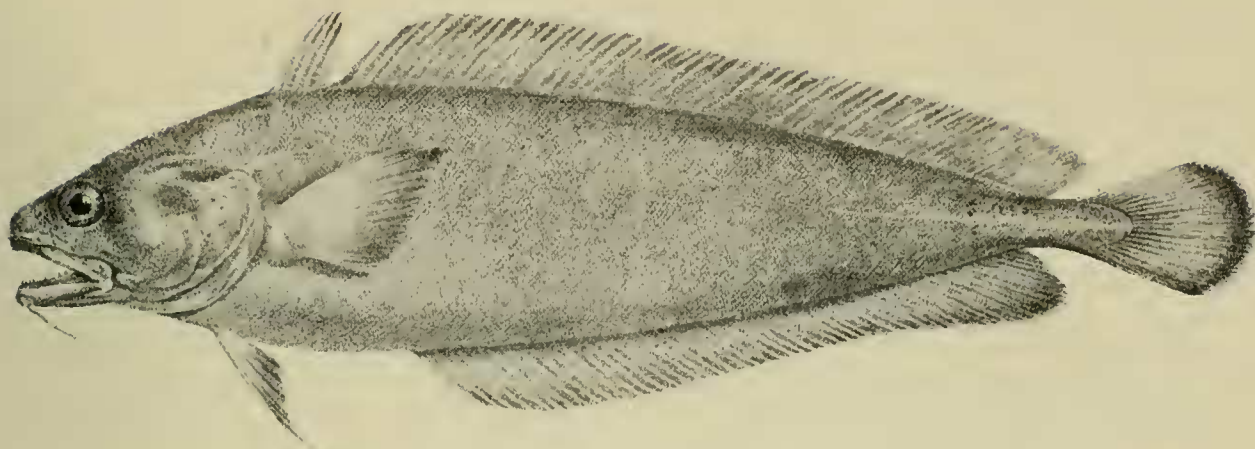
Roughley, Fish. Aust., 1916, p. 47, pl. x.

Lotella schuettei Steind., Sitzb. Akad. Wiss. Wien. liii, 1866, p. 466, pl. iii, fig. 1.

Lotella marginata Macl., P.L.S., N.S.W., vi, 1881, p. 114 (not Günth. 1878).

Lotella swanii Johnston, P.R.S., Tasm., 1883, p. 126.

Lotella limbata Ogil., Cat. Fish. N.S.W., 1886, p. 47.

Fig. 101. *Lotella caltarias*.

Not regarded as a prime fish; the flesh is rather soft and of poor keeping quality.

PHYSICULUS Kaup, 1858 (*dalwigkii*).

PHYSICULUS BARBATUS Günther (Cod).

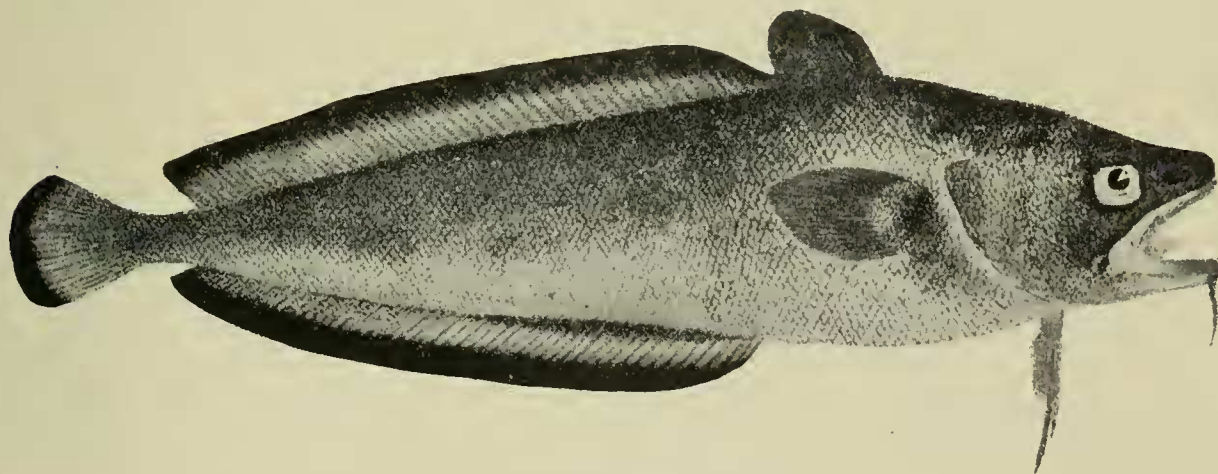
Pseudophysis barbatus Günth., A.M.N.H. (3), xi, 1863, p. 116; McCoy, Prod. Zool. Vict., dec. ii, 1878, pl. xx.

Physiculus palmatus Klunz., Arch. f. Naturg., xxxviii, 1872, p. 38.

Lotella grandis Rams., P.L.S., N.S.W., v, 1881, p. 462.

Physiculus barbatus Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 24.

Physiculus bachus Stead, Edib. Fish. N.S.W., 1908, pl. xvi (not Forst.).

Fig. 102. *Physiculus barbatus*.

“The flesh is soft and not very good.”

PHYSICULUS BACHUS Forster (Red Cod).

Lota bachus Forst., in Bloch & Schneid., Syst. Ichth., 1801, p. 53.

Leta breviscula Rich., Zool. Ereb. & Terr., 1848, p. 61, pl. xxxviii, fig. 1, 2.

Physiculus bachus Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 24 and Rec. Cant. Mus., i, 1911, p. 183, pl. xxxi, fig. 1.

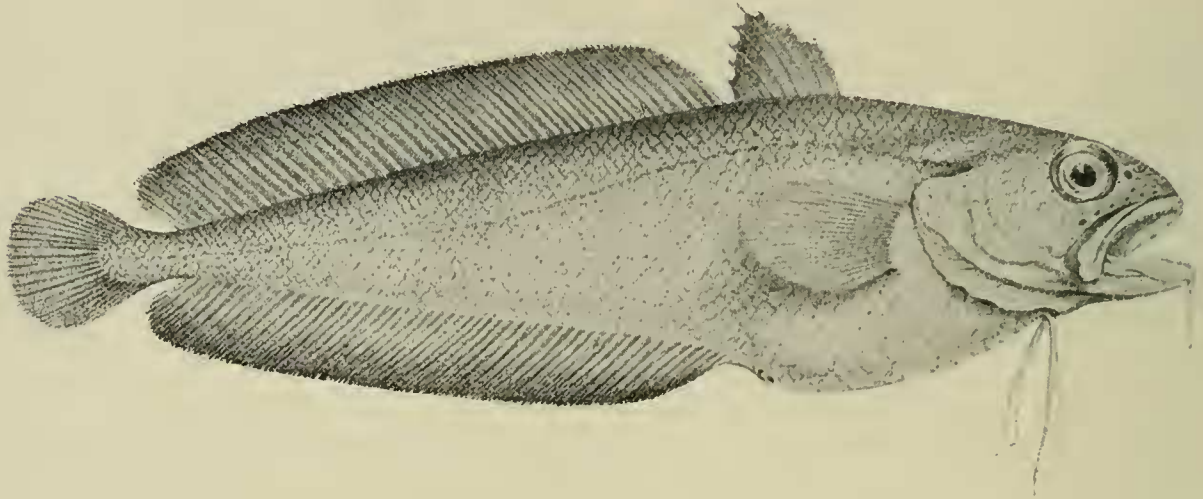


Fig. 103. *Physiculus bachus*.

Not recognized by fishermen as distinct from the foregoing.

ORDER BERYCOMORPHI.

FAMILY BERYCIDAE.

TRACHICHTHODES Gilchrist, 1903 (spinosus).

TRACHICHTHODES LINEATUS Cuvier & Valenciennes (Swallow-tail).

Beryx lineatus Cuv. & Val., Hist. Nat. Poiss., iii, 1829, p. 226, pl. lx.

Beryx mulleri Klunz., Sitz. Akad. Wiss. Wien, lxxx, 1880, p. 359, pl. iii, fig. 1.

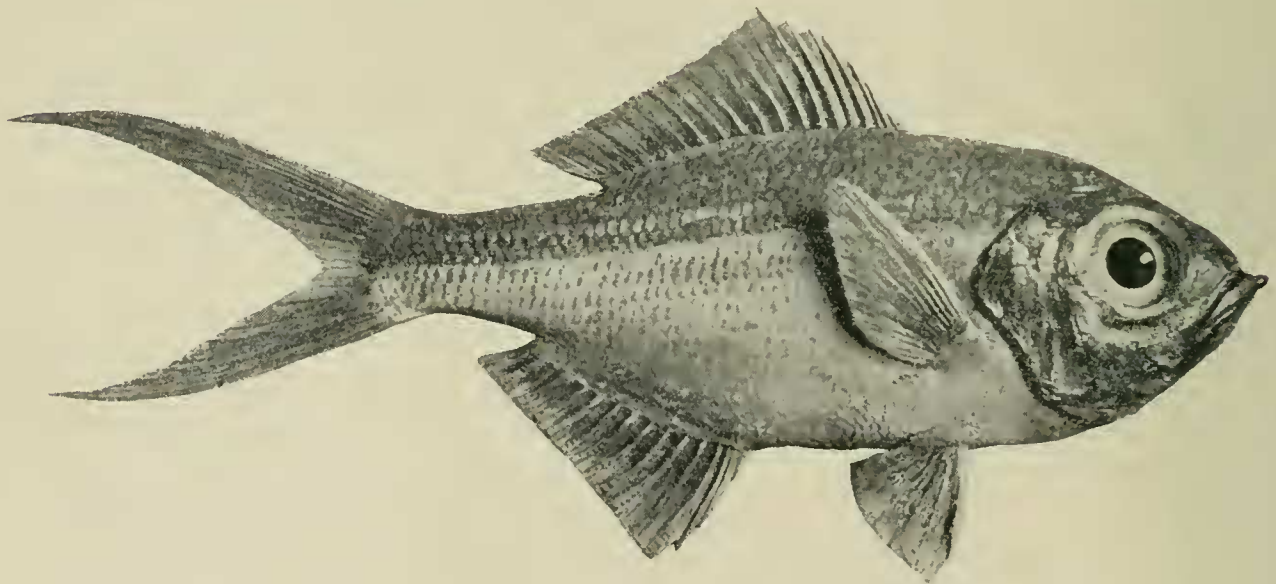


Fig. 104. *Trachichthodes lineatus*.

Trachichthodes lineatus Waite & McCull., T.R.S., S.A., xxxix, 1915, p. 461, fig. (head).

An excellent and much esteemed food fish. The commonest fish taken on the "Simplon" trawling cruise, 1914, 700 lb. weight being netted in one haul.

TRACHICHTHODES AFFINIS Günther (Namygai).

Beryx affinis Günth., Cat. Fish. Brit. Mus., i, 1859, p. 13 and A.M.N.H. (5), xx, 1887, p. 238, fig. (snout); Ogil., Edib. Fish. N.S.W., 1893, p. 69, pl. xxi; Stead, Edib. Fish. N.S.W., 1908, p. 48, pl. xvii.

Hoplopteryx affinis Regan, A.M.N.H. (8), vii, 1911, p. 5, pl. i.

Austroberyx affinis McCull., Endeavour Res., i, 1911, p. 43, fig. 11.

Trachichthodes affinis Waite & McCull., T.R.S., S.A., xxxix, 1915, p. 463; Roughley, Fish. Aust., 1916, p. 49, pl. xi.

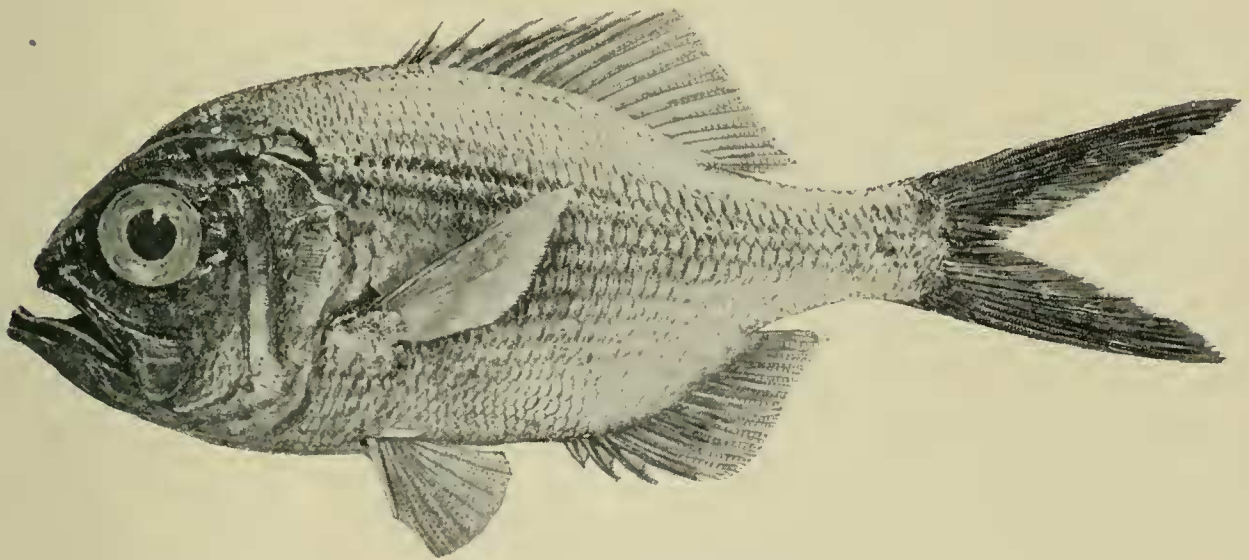


Fig. 105. *Trachichthodes affinis*.

The eastern representative of our Red Snapper, but recorded from South Australia.

TRACHICHTHODES GERRARDI Günther (Red Snapper).

Beryx gerrardi Günth., A.M.N.H. (5), xx, 1887, p. 238, fig. (snout).

Austroberyx gerrardi McCull., Endeavour Res., i, 1911, p. 41, pl. viii.

Trachichthodes gerrardi Waite & McCull., T.R.S., S.A., xxxix, 1915, p. 463.

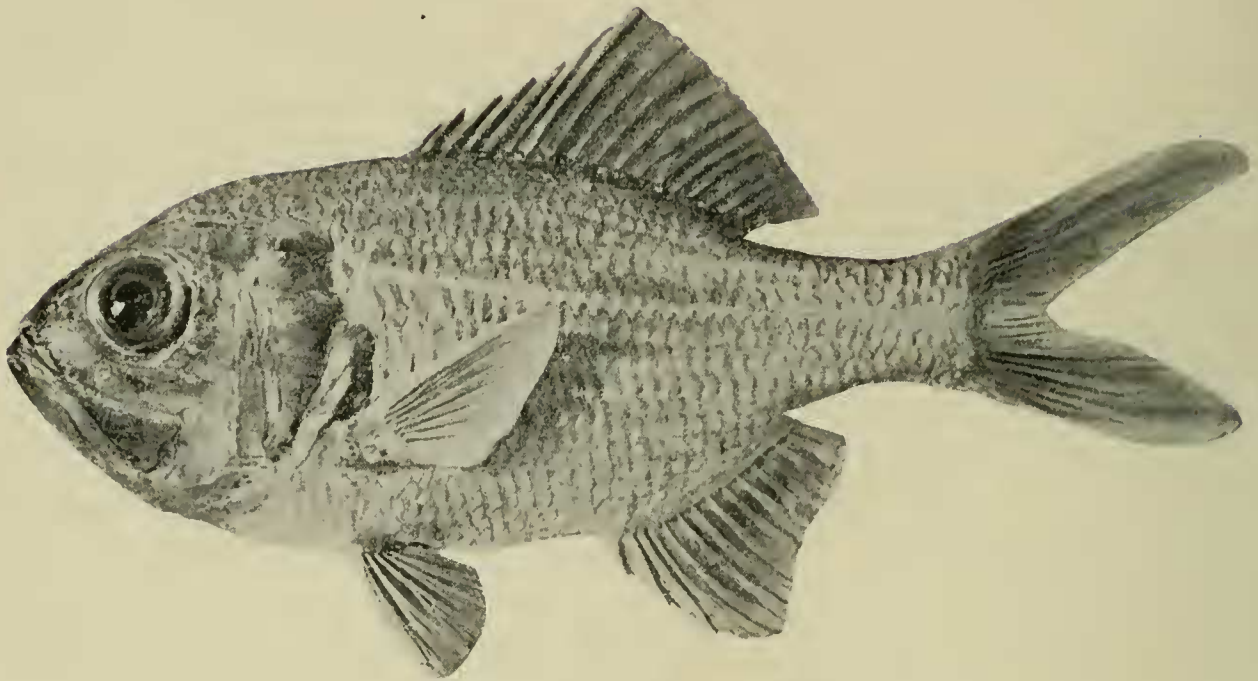


Fig. 106. *Trachichthodes gerrardi*.

An excellent and highly esteemed food fish, scarcely distinguishable from the Namygai. All three species of the genus are of beautiful red colour.

FAMILY TRACHICHTHYIDAE.

HOPLOSTETHUS Cuvier & Valenciennes, 1829 (mediterraneus).

HOPLOSTETHUS MEDITERRANEUS Cuvier & Valenciennes.

Hoplostethus mediterraneus Cuv. & Val., Hist. Nat. Poiss., iv, 1829, p. 469, pl. xeviii, bis; Steind. & Doder., Denks. Akad. Wiss. Wien, xlvii, 1883, p. 218, pl. i; Goode & Bean, Oceanic Ichth., 1895, p. 189, pl. lvi, fig. 208; Alcock, Illus. Zool. Investigator, 1895, pl. xiv, fig. 3.

Trachichthys pretiosus Lowe, P.Z.S., 1839, p. 77.

Hoplostethus japonicus Hilgend., Sitzb. Ges. Naturf. Freunde, Berlin, 1879, p. 78.

Hoplostethus mediterraneus var. *latus* McCull., Endeavour Res., ii, 1914, p. 97, fig. 5.

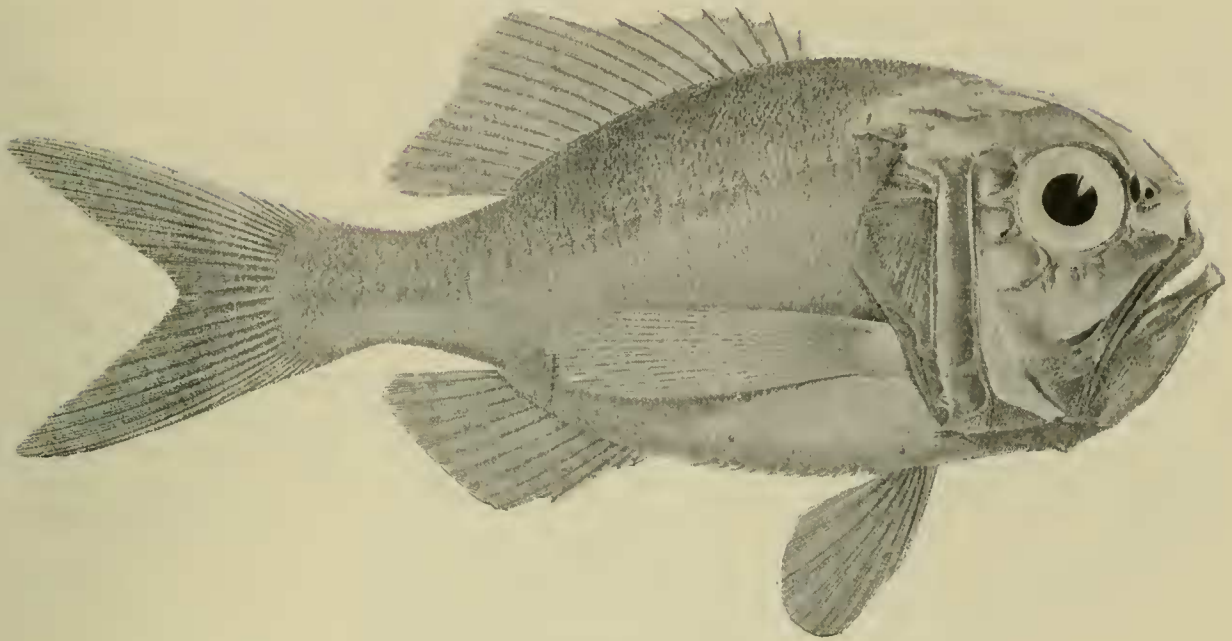


Fig. 107. *Hoplostethus mediterraneus*.

The fishes of this Family occur in deep water and are not netted for food.

HOPLOSTETHUS INTERMEDIUS Hector.

Trachichthys intermedius Hect., T.N.Z. Inst., vii, 1875, p. 245, pl. xi, fig. 18a;

Günth., Chall. Rep., xxii, 1887, p. 24, pl. v, fig. D.

Hoplostethus intermedius McCull., Endeavour Res., ii, 1914, p. 100, fig. 6.

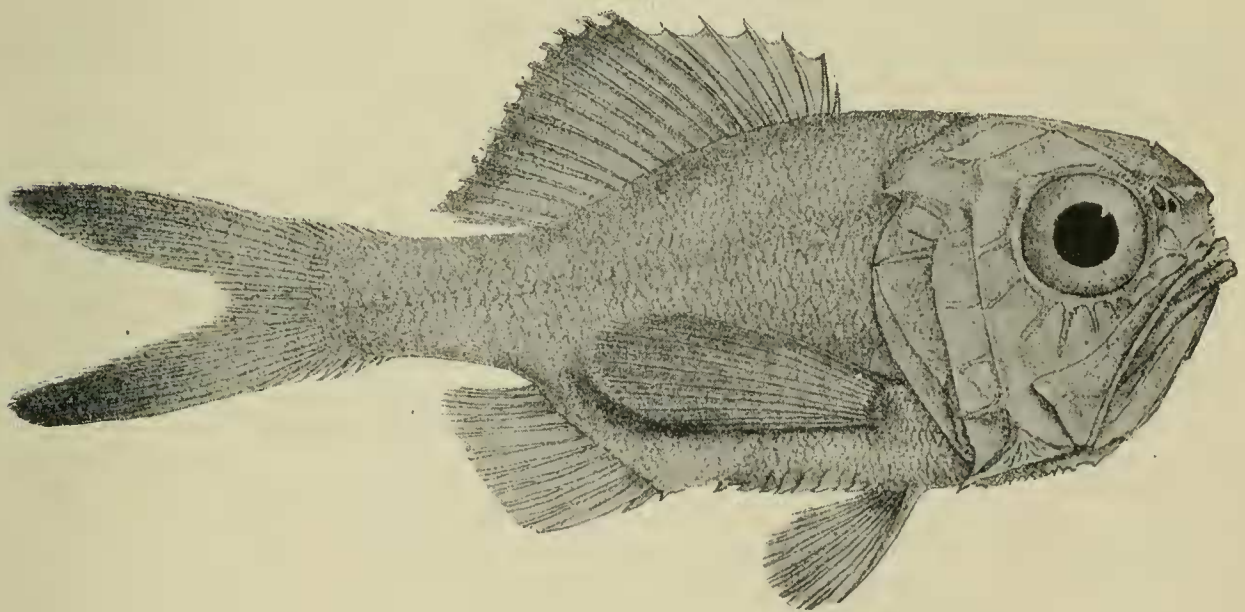


Fig. 108. *Hoplostethus intermedius*.

HOPLOSTETHUS GIGAS McCulloch.

Hoplostethus gigas McCull., Endeavour Res., ii, 1914, p. 101, pl. xix.

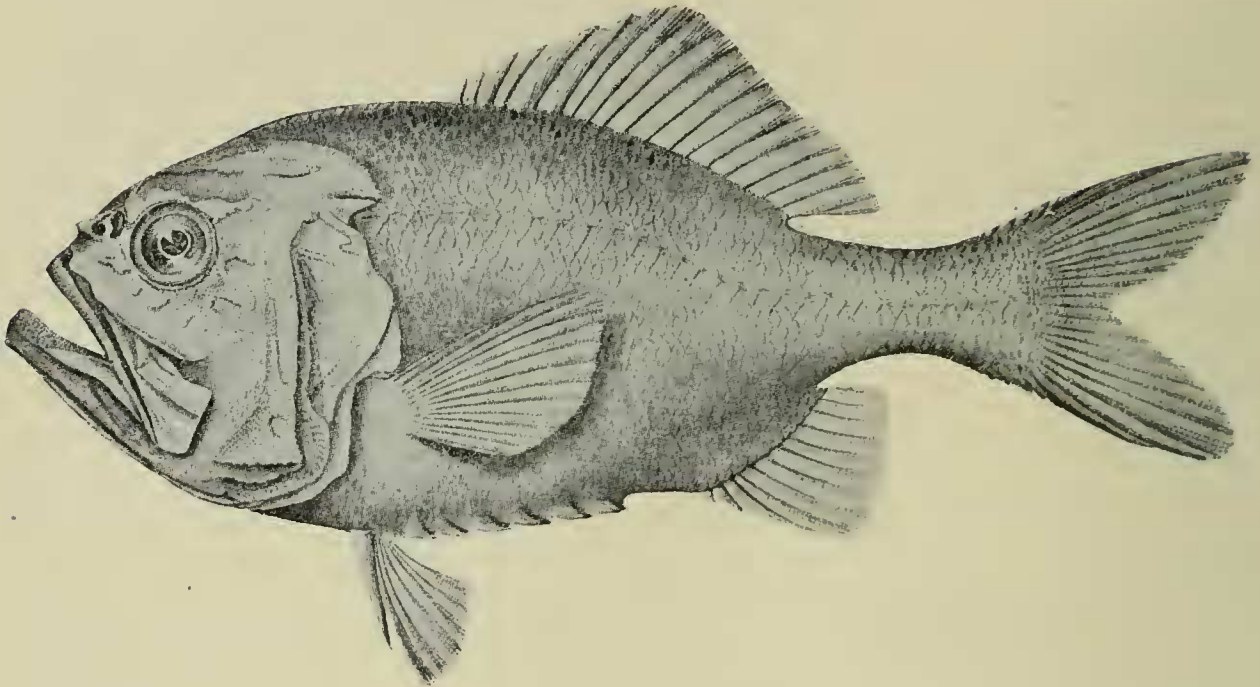


Fig. 109. *Hoplostethus gigas*.

GEPHYROBERYX Boulenger, 1902 (*darwinii*).

GEPHYROBERYX DARWINII Johnson.

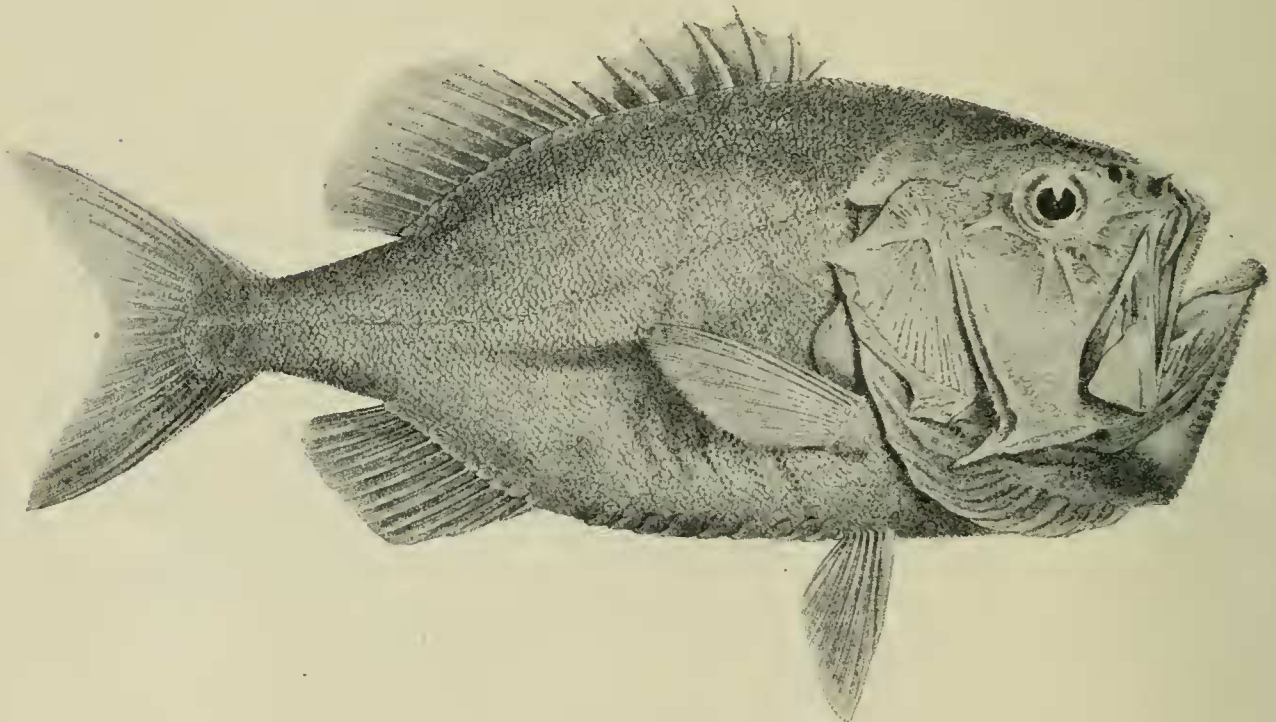


Fig. 110. *Gephyroberyx darwinii*.

Trachichthys darwini Johnson, P.Z.S., 1866, p. 311, pl. xxxii; Goode & Bean, Oceanic Ichth., 1895, p. 188, pl. lvi, fig. 207.

Gephyroberyx darwini Boul., A.M.N.H. (7), ix, 1902, p. 203; McCull., Endeavour Res., iv, 1916, p. 182.

PARATRACHICHTHYS Waite, 1899 (trailli).

PARATRACHICHTHYS TRAILLI Hutton.

Trachichthys trailli Hutt., T.N.Z. Inst., viii, 1876, p. 212; Günth., Chall. Rep., xxii, 1887, p. 23, pl. lv., fig. A.

Trachichthys macleayi Johnston, P.R.S., Tasm., 1881, p. 56.

Paratrachichthys trailli Waite, Mem. Austr. Mus., iv, 1890, p. 65.

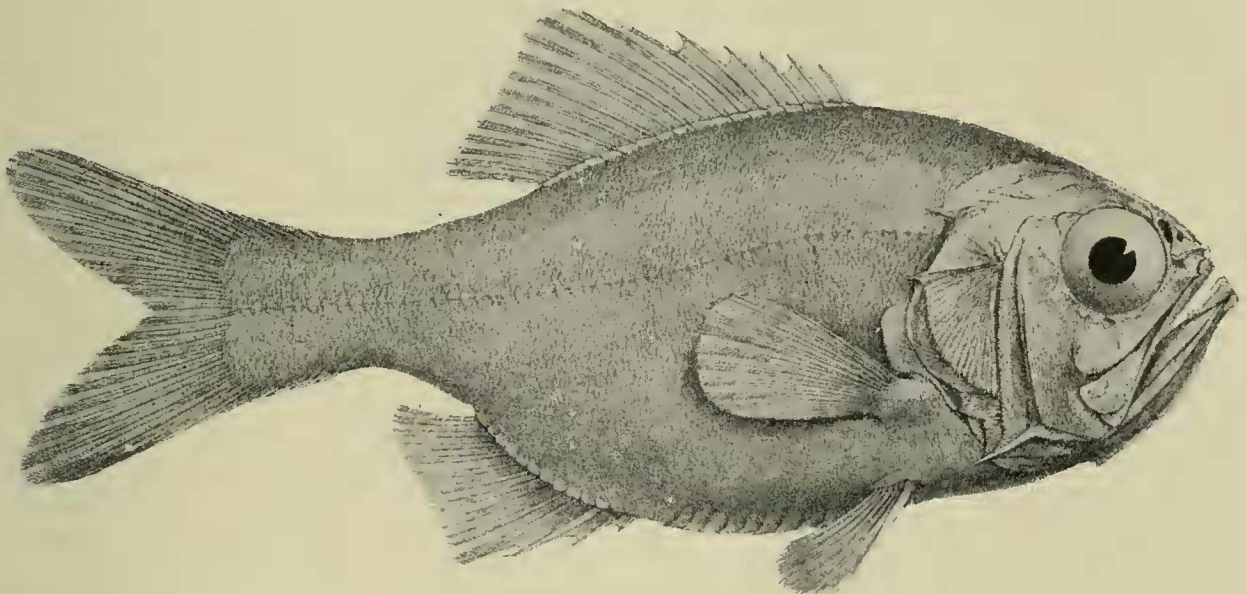


Fig. 111. *Paratrachichthys trailli*.

TRACHICHTHYS Shaw & Nodder, 1799 (australis).

TRACHICHTHYS AUSTRALIS Shaw & Nodder (Roughy).

Trachichthys australis Shaw & Nodder, Nat. Misc., x, 1799, pl. cccclxxviii; McCoy, Prod. Zool. Vict., dec. xii, 1886, pl. exiv.

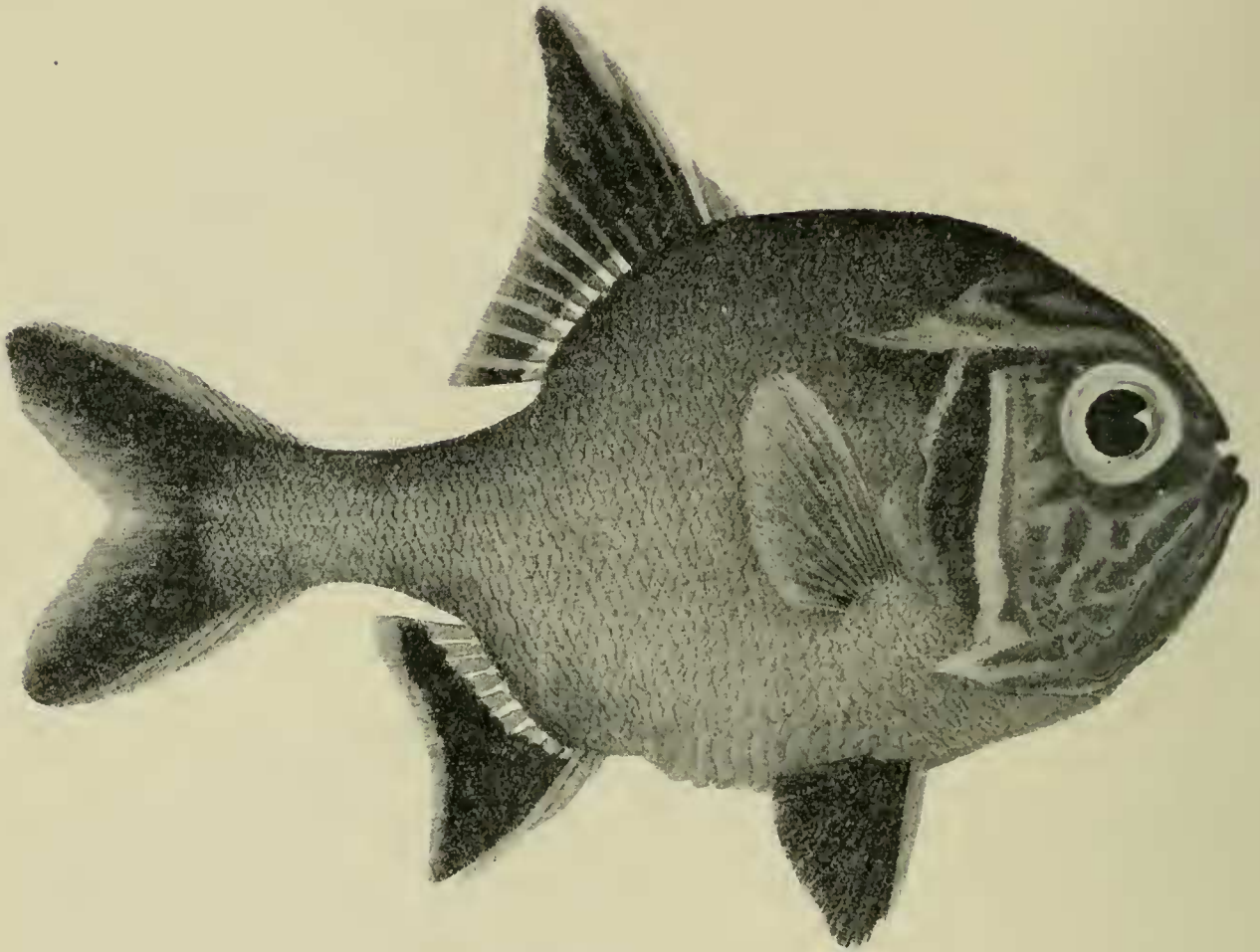


Fig. 112. *Trachichthys australis*.

FAMILY ZEIDAE.

ZEUS Linnaeus, 1758 (faber).

ZEUS FABER Linnaeus (John Dory).

Zeus faber Linn., Syst. Nat. (ed. x), 1758, p. 267; Day, Fish. Gt. Brit. and Irel., i, 1881, p. 138, pl. xlvihi; Roughley, Fish. Aust., 1916, p. 168, pl. lviii.

Zeus australis Rich., Zool. Ereb. & Terr., 1845, p. 36, pl. xxv., fig. 1.

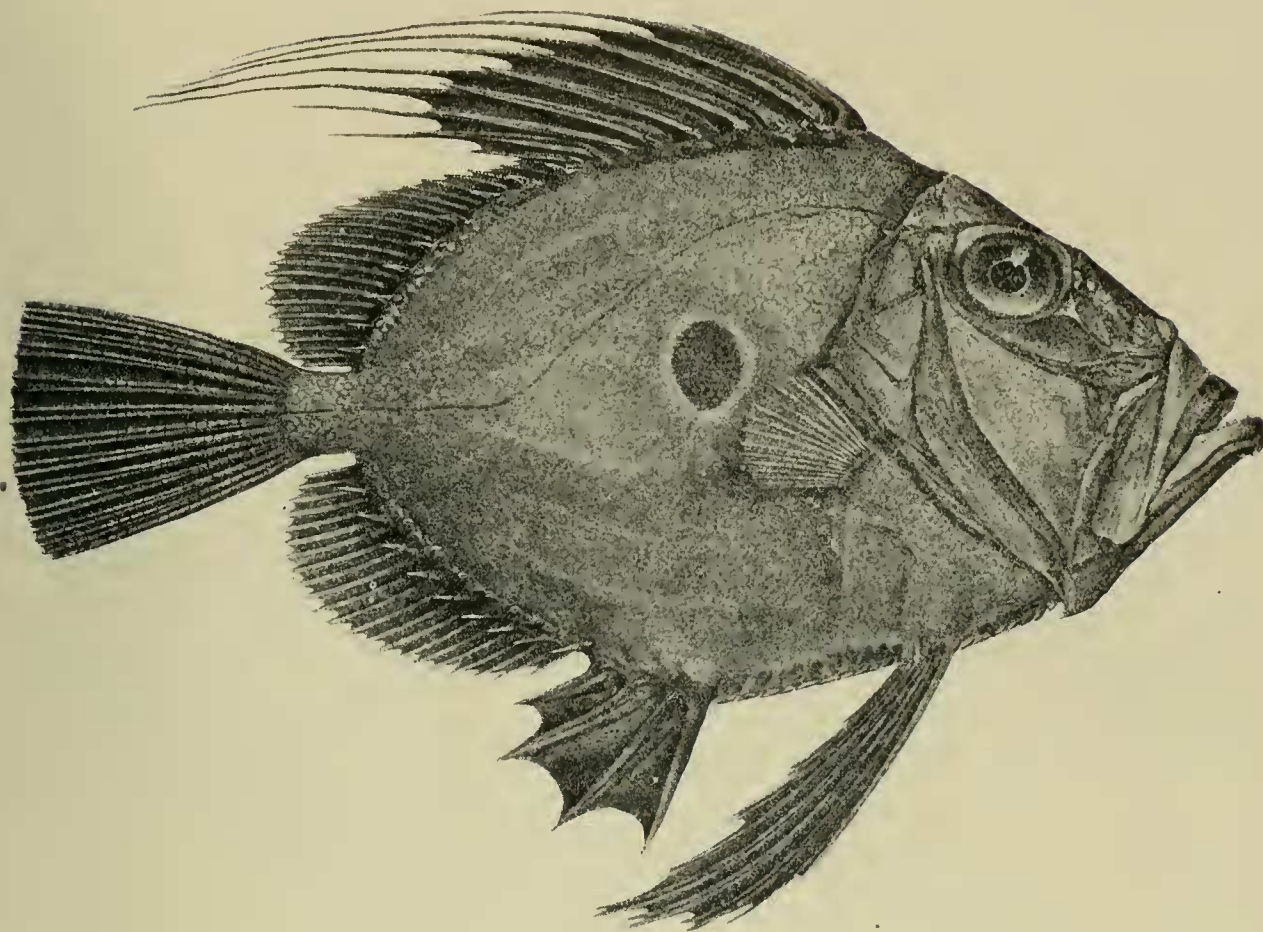


Fig. 113. *Zeus faber*.

A most excellent table fish, seldom seen in the Adelaide market, owing to entire absence of the trawling industry.

FAMILY CYTTIDAE.

CYTTUS Günther, 1860 (*australis*).

CYTTUS AUSTRALIS Richardson (*Silver Dory*).

Capros australis Rich., T.Z.S., iii, 1849, p. 73 and Zool. Ereb. & Terr., 1848, p. 137, pl. lix, fig. 1-5.

Cyttus australis Günth., Cat. Fish. Brit. Mus., ii, 1860, p. 396; Stead, Edib. Fish. N.S.W., 1908, p. 102, pl. lxxviii.

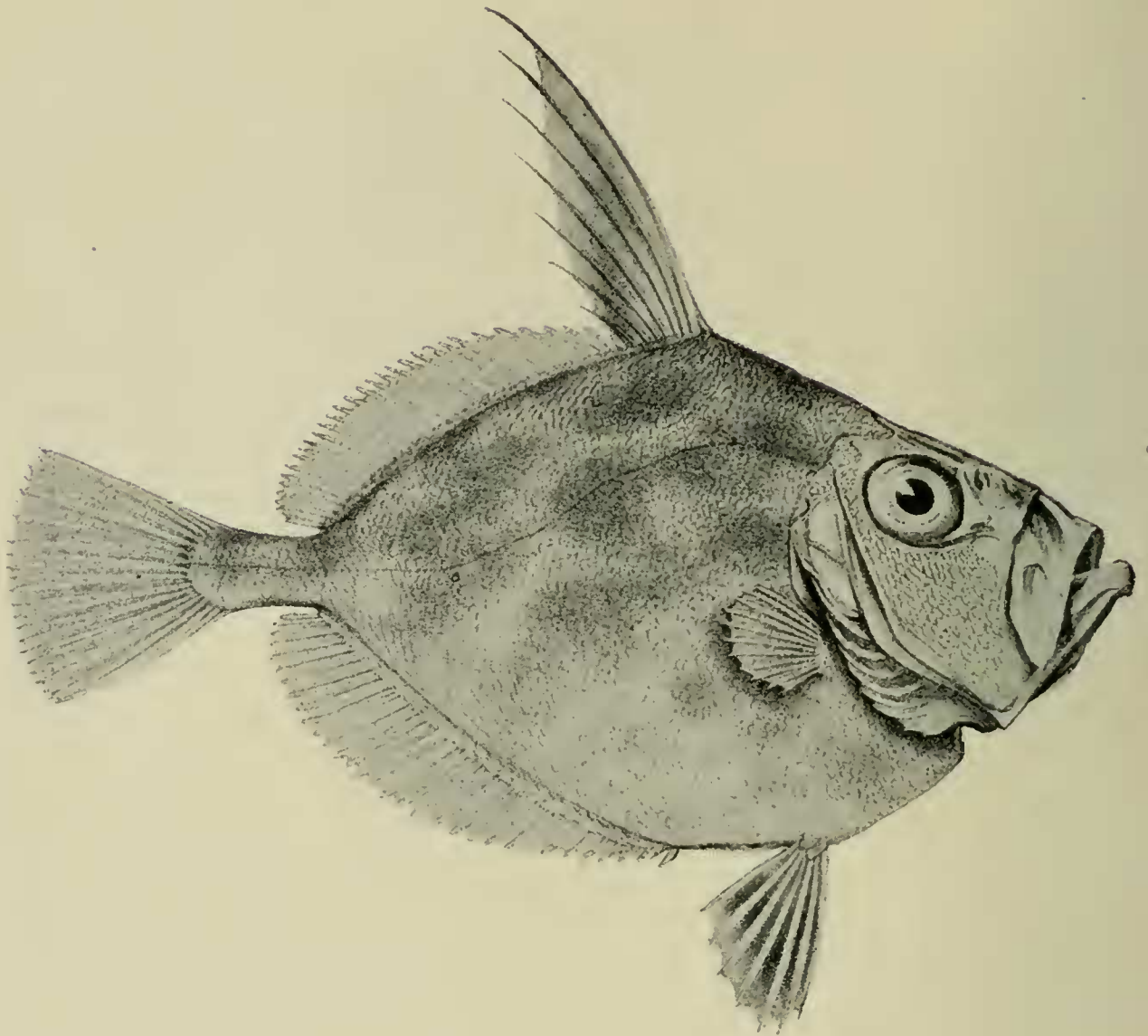


Fig. 114. *Cyttus australis*.

Another good fish which will doubtless be better known when our waters are properly fished.

CYTTOSOMA Gilchrist, 1904 (boops).

CYTTOSOMA BOOPS Gilchrist (Ox-eyed Dory).

Cyttosoma boops Gilch., Mar. Invest. S. Afric., iii, 1904, p. 6, pl. xxiii; McCull., Endeavour Res., ii, 1914, p. 113.

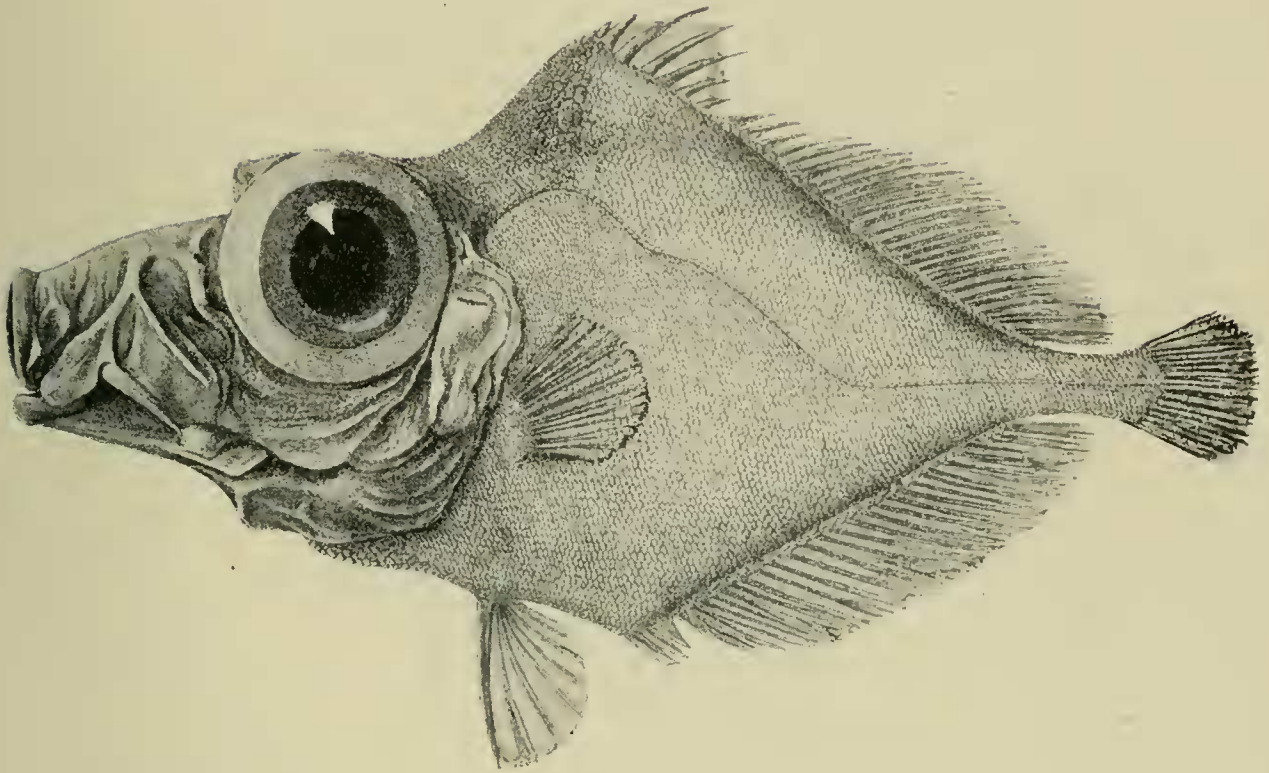


Fig. 115. *Cyttosoma boops*.

Likewise awaiting the advent of the trawl. Specimens were taken by the "Simplon" in 1914, in 80-140 fathoms, and previously by the "Endeavour" in still deeper water, all obtained in the Great Australian Bight.

NEOCYTTUS Gilchrist, 1907 (*rhomboidalis*).

NEOCYTTUS RHOMBOIDALIS Gilchrist.

Neocyttus rhomboidalis Gilch., Mar. Invest. S. Afric., iv, 1907, p. 153, pl. xlii.

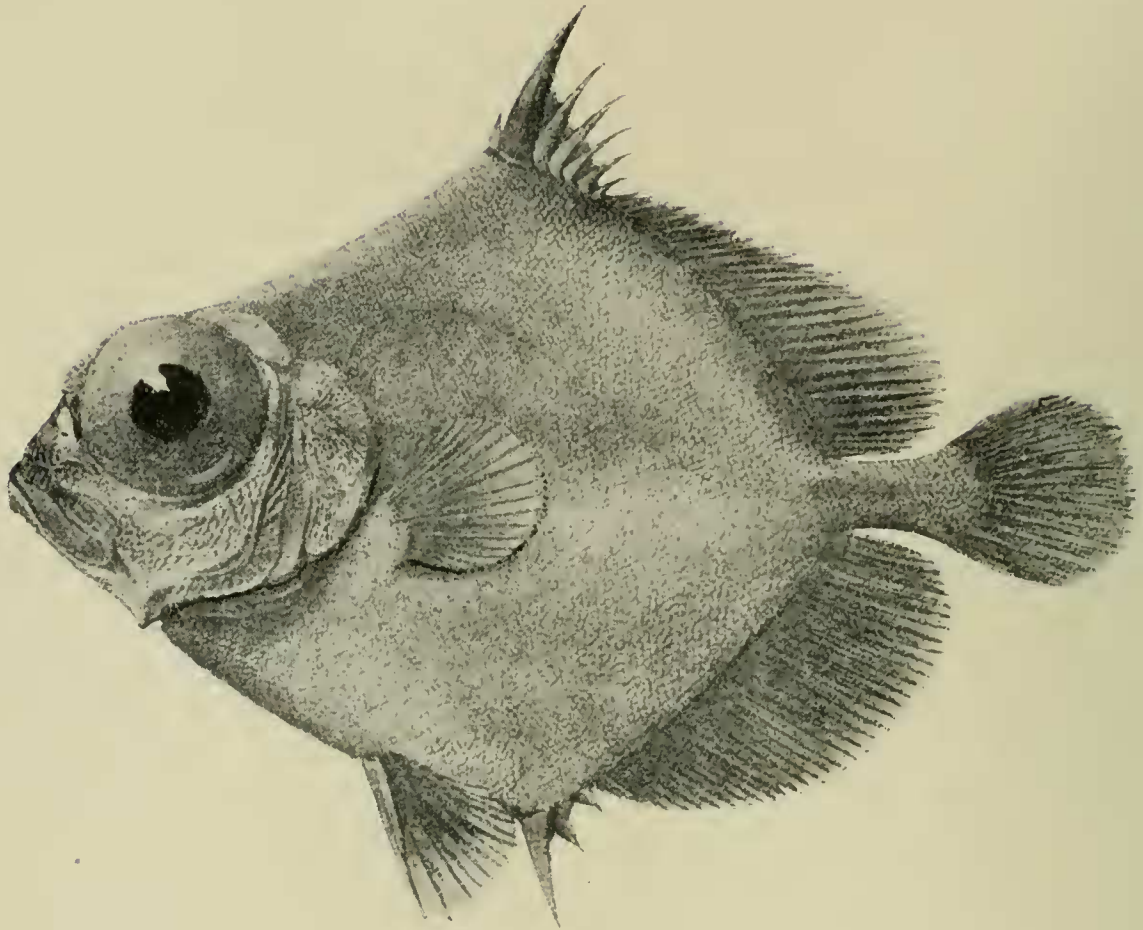


Fig. 116. *Neocyttus rhomboidalis*.

South Australian specimens are referred to a variety, as below.

var. GIBBOSUS McCulloch.

Neocyttus rhomboidalis var. *gibbosus* McCull., Endeavour Res., ii, 1914, p. 119. fig. 8.

Typical forms of this and the following species were first described from South Africa. Australian representatives were secured in the Great Australian Bight by the "Endeavour" in 350-450 fathoms.

ALLOCYTTUS McCulloch, 1914 (verrucosus).

ALLOCYTTUS VERRUCOSUS Gilchrist.

Oreosoma sp. Boul., Compt. Rendu, Acad. Sci. Paris, cxxxvii, 1903, p. 523.

Cyttosoma verrucosum Gilch., Mar. Invest. S. Afric., iv, 1908, p. 151, pl. xl.

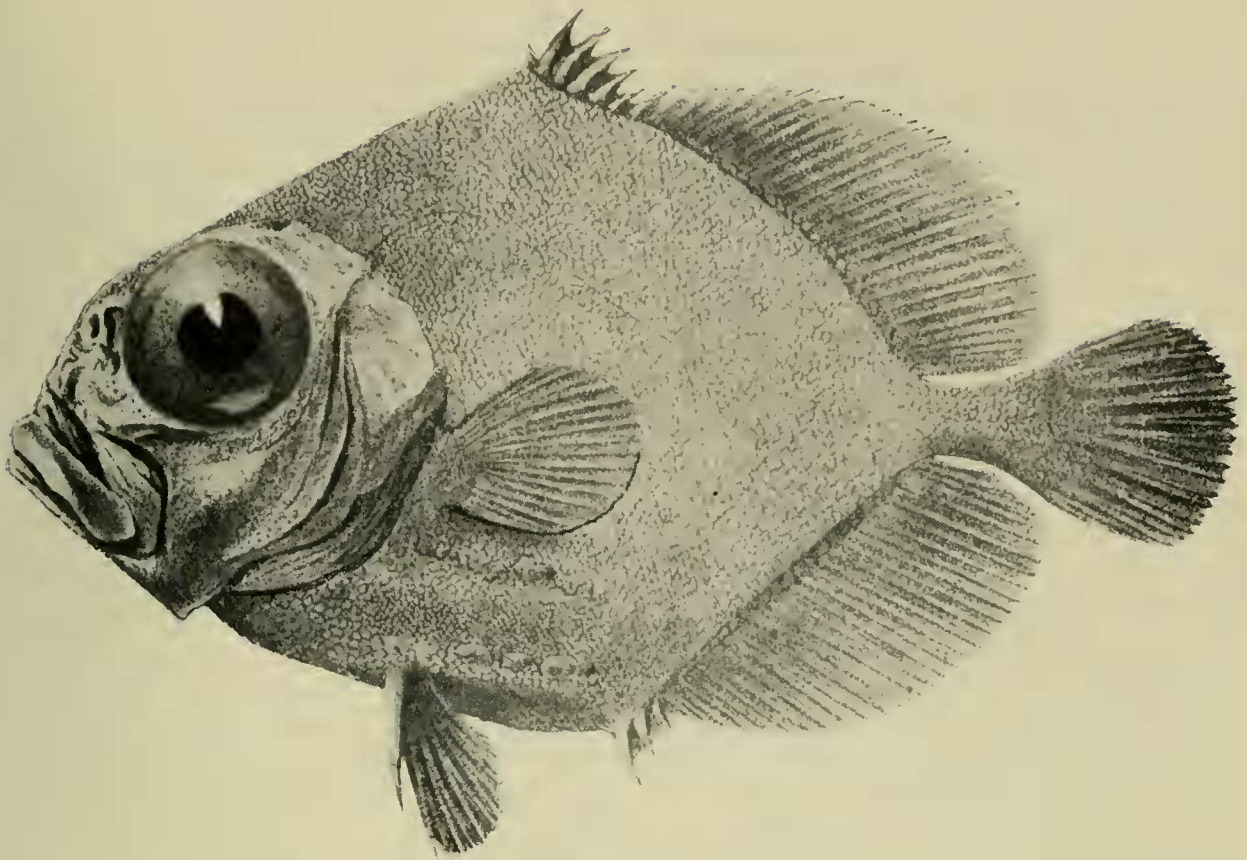


Fig. 117. *Allocyttus verrucosus*.

South Australian specimens are referred to a variety, as below.

var. **PROPINQUUS** McCulloch.

Allocyttus verrucosus var. *propinquus* McCull., Endeavour Res., ii, 1914, p. 116, fig. 7.

ORDER PERCOMORPHI.

SUB-ORDER PERCESOCES.

FAMILY ATHERINIDAE.

CRATEROCEPHALUS McCulloch, 1912 (*fluviatilis*).

CRATEROCEPHALUS FLUVIATILIS McCulloch (Fresh-water Hardyhead, Parli).

Craterocephalus fluviatilis McCull., P.R.S., Qld., xxiv., 1912, p. 49, pl. i, fig. 1.

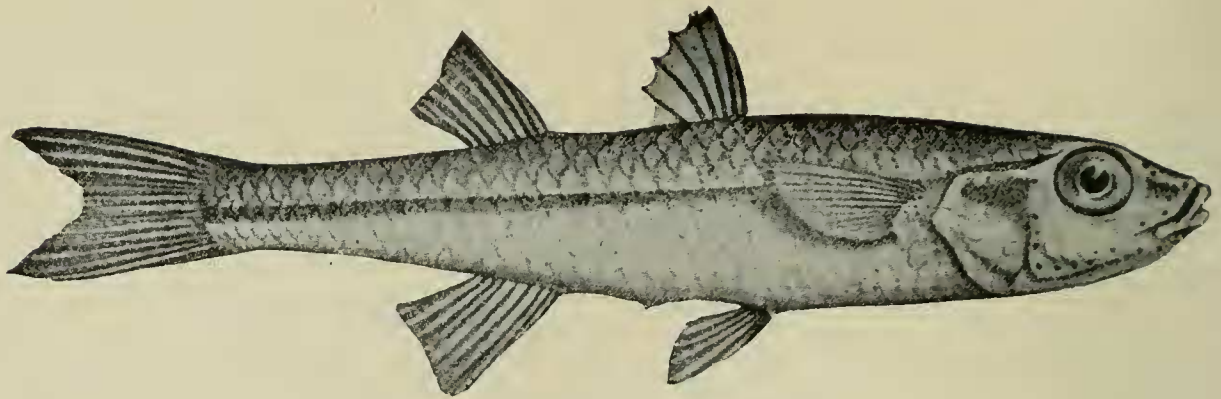


Fig. 118. *Craterocephalus fluvialtilis*.

The members of this Family are small fishes of no commercial value.

CRATEROCEPHALUS EYRESII Steindachner.

Atherinichthys eyresii Steind., Anz. Akad. Wiss. Wien, xx, 1883, p. 194 and Sitzb. Akad. Wiss. Wien, lxxxviii, 1884, p. 1075.

Atherina interioris Zietz, T.R.S., S.A., xxxiii, 1909, p. 264 (*nom. nud.*).

Craterocephalus eyresii McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 43, fig. 27.

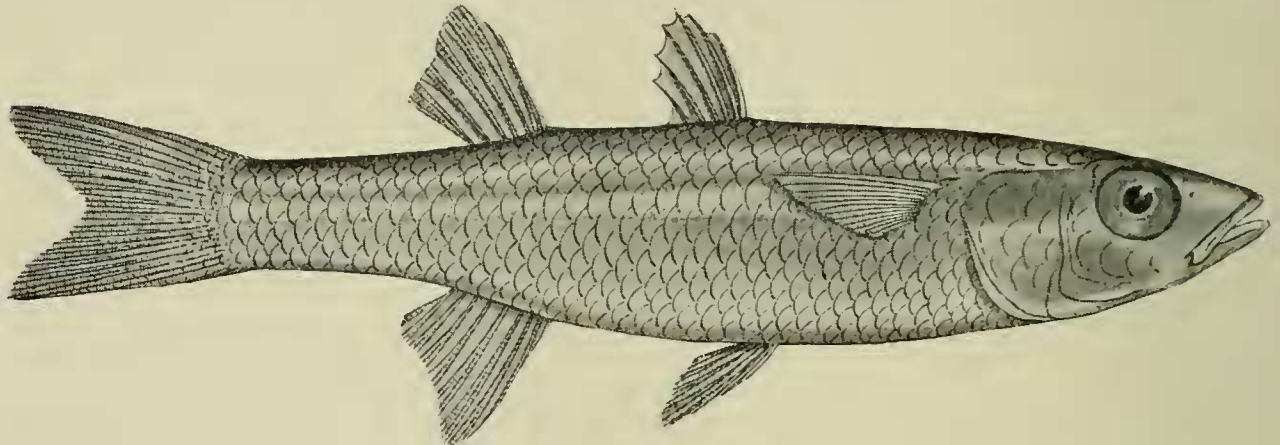


Fig. 119. *Craterocephalus eyresii*.

ATHERINA Linnaeus, 1758 (hepsetus).

ATHERINA TAMARENSIS Johnston.

Atherina tamarensis Johnston, P.R.S., Tasm., 1883, p. 122.

Atherina tasmaniensis MacL., P.L.S., N.S.W., ix, 1884, p. 443.

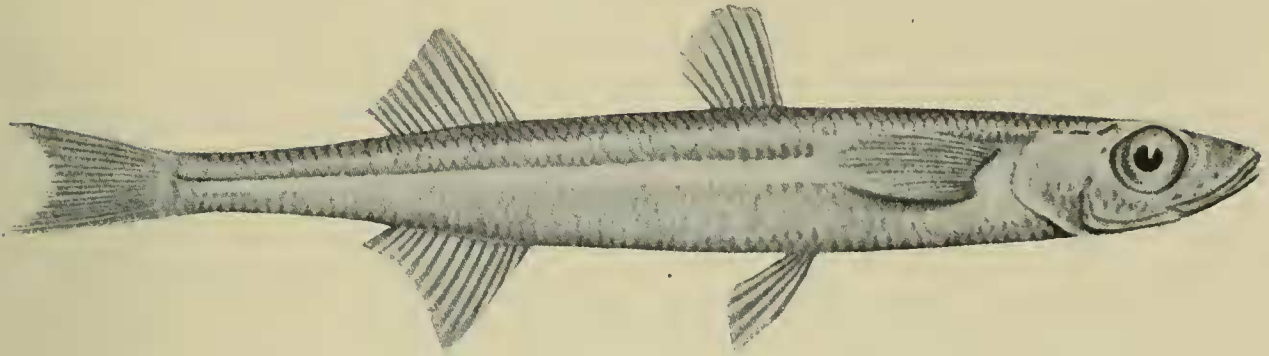
Atherinichthys cephalotes Zietz, T.R.S., S.A., xxxiii, 1909, p. 264 (not Cast.).

Taeniomembras tamarensis McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 41.

ATHERINA DANNEVIGI McCulloch.

Atherina hepsetus Günth., A.M.N.H. (4), xvii, 1876, p. 396 (not Linn.).

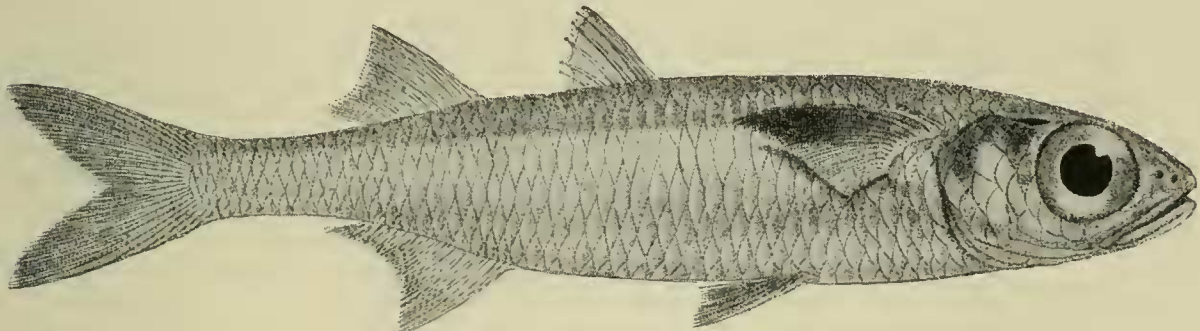
Atherina dannevigii McCull., Endeavour Res., i, 1911, p. 31, pl. xvi, fig. 2.

Fig. 121. *Atherina dannerigi*.**HEPSETIA** Bonaparte, 1837 (*boyeri*).**HEPSETIA PINGUIS** Lacepède (Hardyhead).

Atherina pinguis Lacep., Hist. Nat. Poiss., v. 1803, p. 371, pl. xi, fig. 1; Ogil., Mem. Qld. Mus., i, 1912, p. 38, pl. xii, fig. 1.

Atherinichthys modesta, *A. picta* and *A. cephalotes* Cast., P.Z.S., Viet., i, 1872, p. 136, 137.

Atherina lacunosa Günth., Journ. Mus. Godeff., xiii, 1877, p. 213, pl. cxviii, fig. E (not Forst.).

Fig. 122. *Hepsetia pinguis*.

FAMILY MELANOTAENIIDAE.

MELANOTAENIA Gill, 1862 (*nigrans*).**MELANOTAENIA NIGRANS** Richardson (Pink ear).

Atherina nigrans Rich., A.M.N.H., xi, 1843, p. 180.

Melanotaenia nigrans Gill, Proc. Acad. Nat. Sci. Phil., 1862, p. 280.

Nematocentris splendida Peters, Monatsb. Akad. Wiss. Berlin, 1866, p. 516.

Strabo nigrofasciatus Kner & Steind., Sitzb. Akad. Wiss. Wien, liv, 1866, p. 373, 395, pl. iii, fig. 10.

Zantecla pusilla Cast., P.Z.S., Viet., ii, 1873, p. 88.

Aida inornata Cast., Res. Fish. Aust., 1875, p. 10.

- Neoatherina australis* Cast., Res. Fish. Aust., 1875, p. 32.
Aristeus fitzroyensis, *A. flurialis* and *Atherinichthys duboulayi* Cast., P.L.S., N.S.W., iii, 1878, p. 141, 143.
Aristeus rufescens and *A. lineatus* Mael., P.L.S., N.S.W., v, 1881, p. 625.
Aristeus cavifrons Mael., *op. cit.* vii, 1882, p. 70.
Aristeus perporosus De Vis, P.L.S., N.S.W., ix, 1884, p. 694.
Aristeus loriae Perugia, Ann. Mus. Genova (2), xiv, 1894, p. 549.
Nematocentris tatei and *N. winneckeii* Zietz, Rep. Horn Exped., ii, 1896, p. 178, 179, pl. xvi, fig. 2, 3.
Melanotaenia maculata Weber, Nova Guinea, v, 1908, p. 239, pl. xi, fig. 4.
Melanotaenia ogilbyi Weber, Notes Leyden Mus., xxxii, 1910, p. 230.
Rhombatraetus patoti Weber, Abh. Senckenb. Nat. Ges., xxxiv, 1911, p. 26, pl. i, fig. 3.
Melanotaenia maccullochi Ogil., Mem. Qld. Mus., iii, 1915, p. 118, pl. xxix, fig. 1.

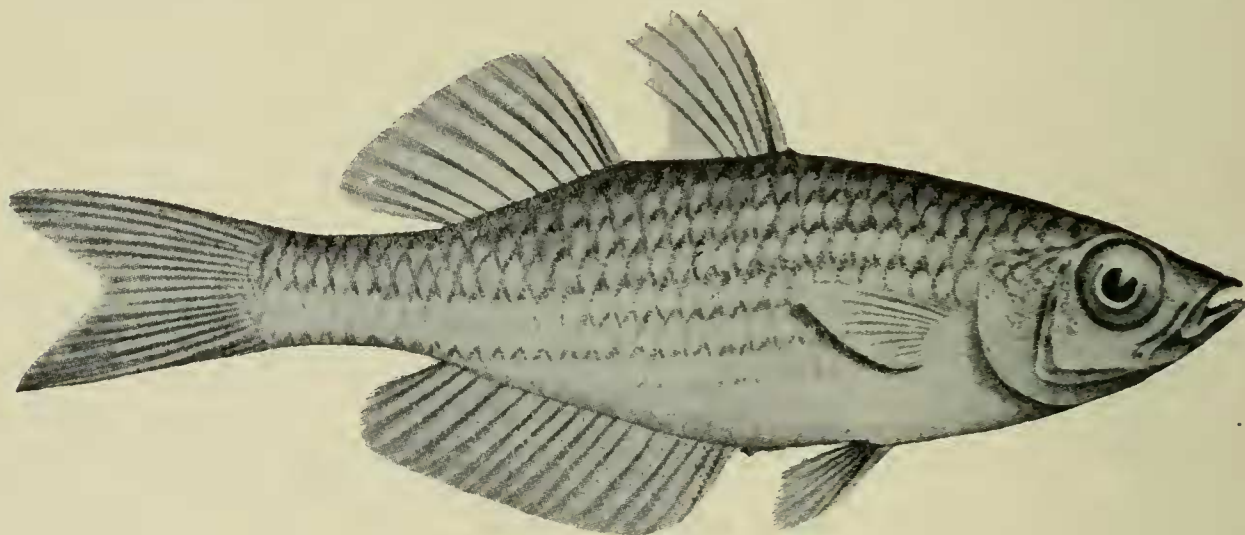


Fig. 123. *Melanotaenia nigrans*.

A small fresh-water fish, admirably suited for the aquarium.

FAMILY MUGILIDAE.

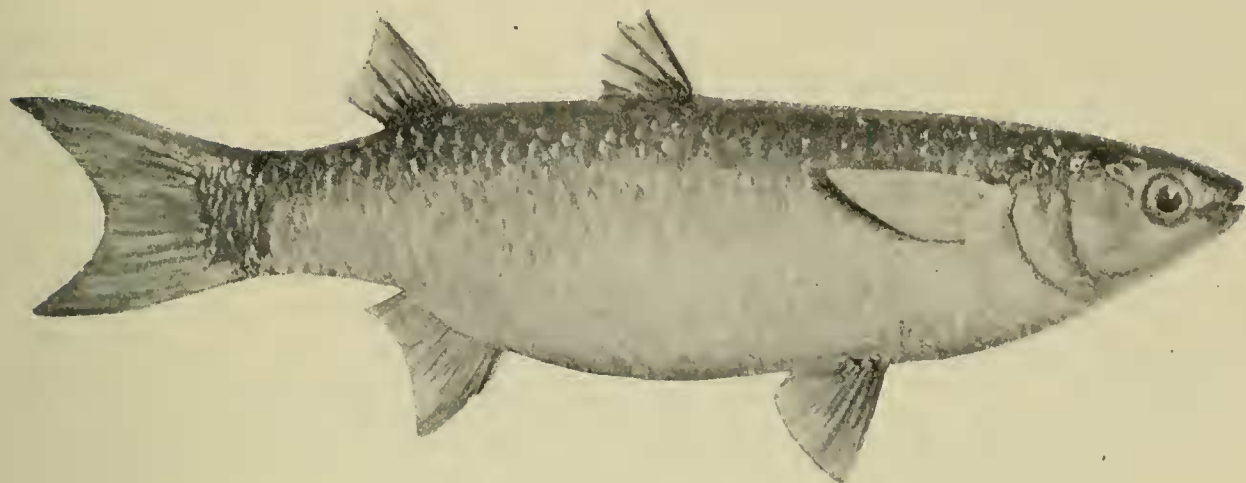
MUGIL Linnaeus, 1858 (cephalus).

MUGIL ARGENTEUS Quoy & Gaimard (Jumping Mullet, Wankari).

Mugil argenteus Quoy & Gaim., Voy. Uran. & Physic., Poiss., 1825, p. 338, pl. lix, fig. 3.

Mugil peronii Cuv. & Val., Hist. Nat. Poiss., xi, 1836, p. 138; Ogil., Edib. Fish. N.S.W., 1893, p. 126, pl. xxxii; Stead, Edib. Fish. N.S.W., 1908, p. 42, pl. xiii; Roughley, Fish. Aust., 1916, p. 41, pl. viii.

Mugil ferrandi Cuv. & Val., *op. cit.*, p. 142.

Fig. 124. *Mugil argentus*.

The Flat-tailed Mullet of the eastern States, plentiful and good-eating, but not so esteemed as the next species.

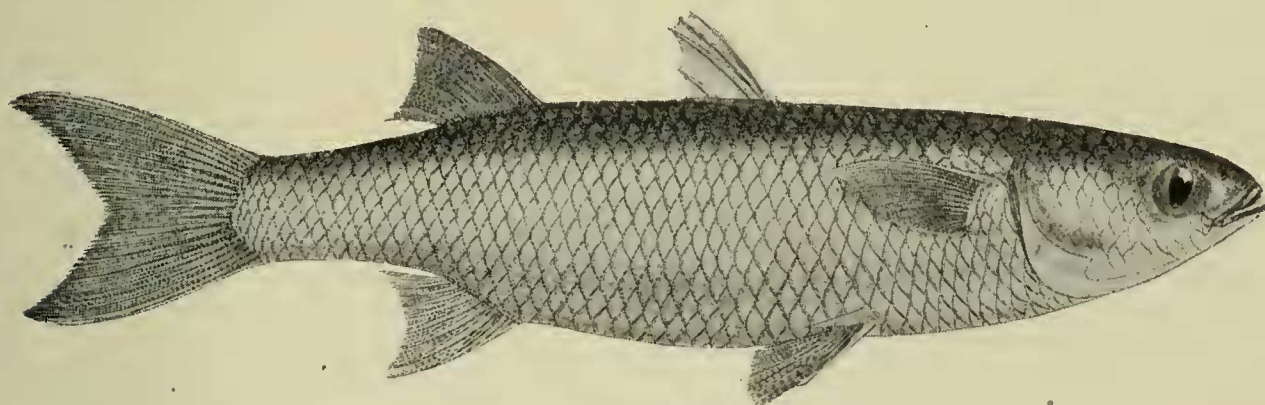
MUGIL DOBULA Günther (Sea Mullet).

Mugil dobula Günth., Cat. Fish. Brit. Mus., iii, 1861, p. 420, fig. (head) and Fische Südsee, ii, 1877, p. 214, pl. cxx, fig. A (head); Ogil., Edib. Fish. N.S.W., 1893, p. 118, pl. xxxi; Stead, Edib. Fish. N.S.W., 1908, p. 40, pl. xii; Roughley, Fish. Aust., 1916, p. 37, pl. vii.

Mugil waigiensis Cast., P.Z.S., Viet., i, 1872, p. 140 (not Quoy & Gaim.).

Mugil grandis Cast., P.L.S., N.S.W., iii, 1879, p. 386.

Mugil cephalotus Johnston, P.R.S., Tasm., 1883, p. 122 (not Cuv. & Val.).

Fig. 125. *Mugil dobula*.

One of the most important food fishes of the Commonwealth, plentiful throughout the year.

AGONOSTOMUS Bennett, 1830 (telfari).

AGONOSTOMUS FORSTERI Bloch & Schneider (Fresh-water Mullet, Conmuri).

Albula forsteri Bl. & Schn., Syst. Ichth. 1801, p. xxxii and 120.

Dajaus diemensis Rich., P.Z.S., 1840, p. 25 and Zool. Ereb. & Terr., 1845, p. 37.
pl. xxvi, fig. 1, 2.

Dajaus forsteri Rich., Zool. Ereb. & Terr., 1847, p. 77. pl. xlv, fig. 20-26 (young).

Agonostoma forsteri Günth., Cat. Fish. Brit. Mus., iii, 1861, p. 465.

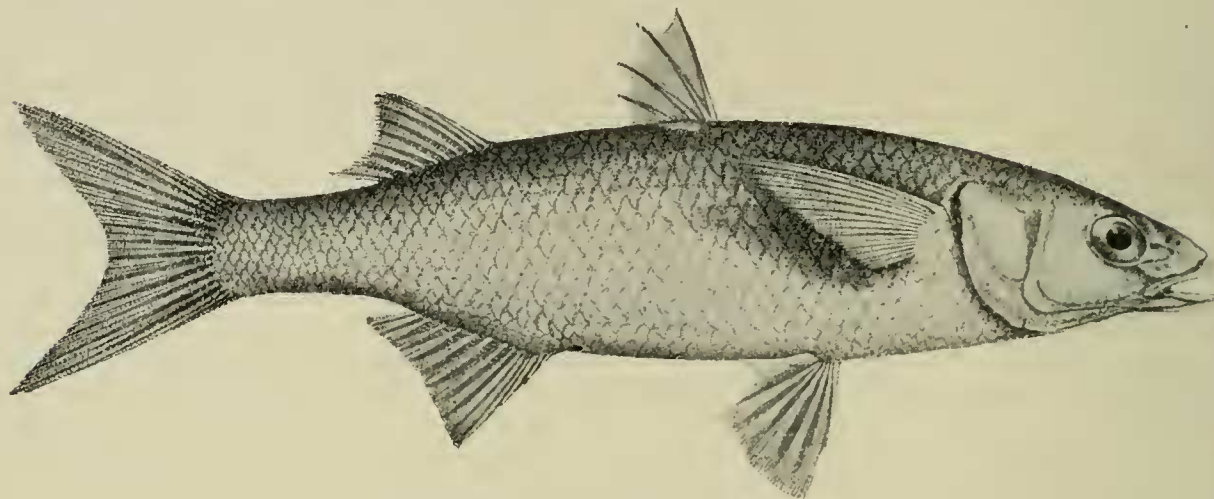


Fig. 126. *Agonostomus forsteri*.

Widely distributed, but of small economic value.

MYXUS Günther, 1861 (*elongatus*).

MYXUS ELONGATUS Günther (Sand Mullet).

Myxus elongatus Günth., Cat. Fish. Brit. Mus., iii, 1861, p. 466; Ogil., Edib. Fish. N.S.W., 1893, p. 128, pl. xxxiii; Waite, Prelim. Rep. Thetis, 1898, p. 61, pl. xii; Stead, Edib. Fish. N.S.W., 1908, p. 45, pl. xiv; Roughley, Fish. Aust., 1916, p. 43, pl. ix.

Cestracus norfolcensis Ogil., P.L.S., N.S.W., xxii, 1898, p. 80.

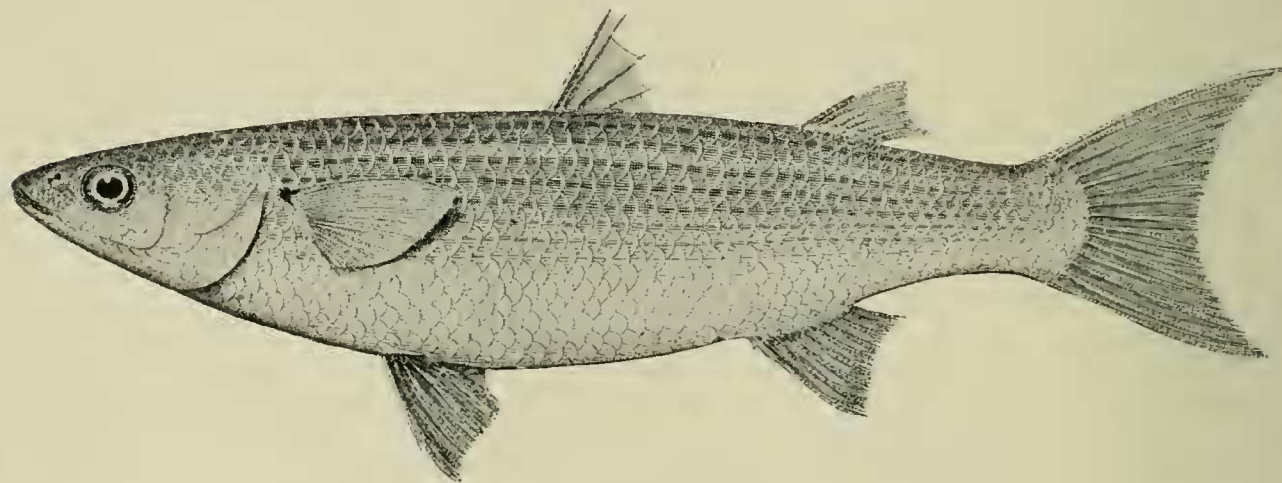


Fig. 127. *Myxus elongatus*.

Though commonly taken and eaten, it is not to be compared with the fish known as Sea Mullet.

FAMILY SPHYRAENIDAE.

SPHYRAENA Rose, 1793 (*sphyraena*).

SPHYRAENA NOVAE-HOLLANDIAE Günther (Snook, Short-finned Pike).

Sphyraena novae-hollandiae Günth., Cat. Fish. Brit. Mus., ii, 1860, p. 335; Ogil., Edib. Fish. N.S.W., 1893, pl. xxx (description, p. 114, is of *S. waitii* Ogil.); Roughley, Fish. Aust., 1916, p. 45.

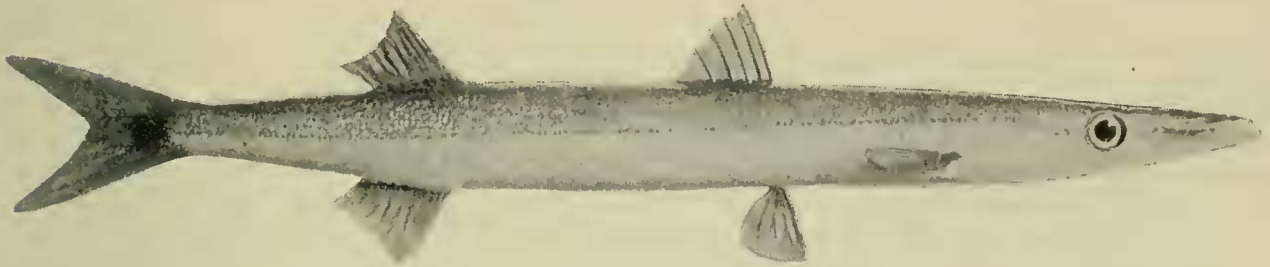


Fig. 128. *Sphyraena novae-hollandiae*.

An excellent table fish, and affords good sport by trailing a lure after a sailing boat. It attains to 3 feet in length.

SPHYRAENA OBTUSATA Cuvier & Valenciennes (Pike).

Sphyraena obtusata Cuv. & Val., Hist. Nat. Poiss., iii, 1829, p. 350; Günth., Fische Südsee, ii, 1877, p. 212, pl. cxix, fig. B.

Sphyraena flavicauda Rupp., Neue Wirbelt., Fisch., 1835, p. 100, pl. xxv, fig. 3.

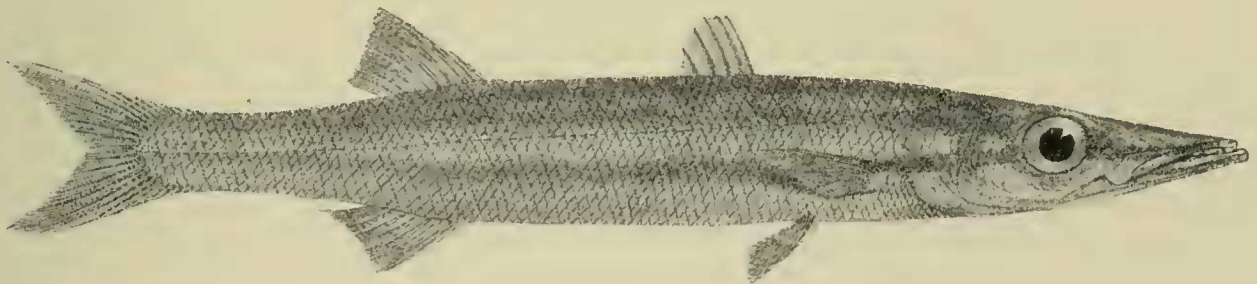
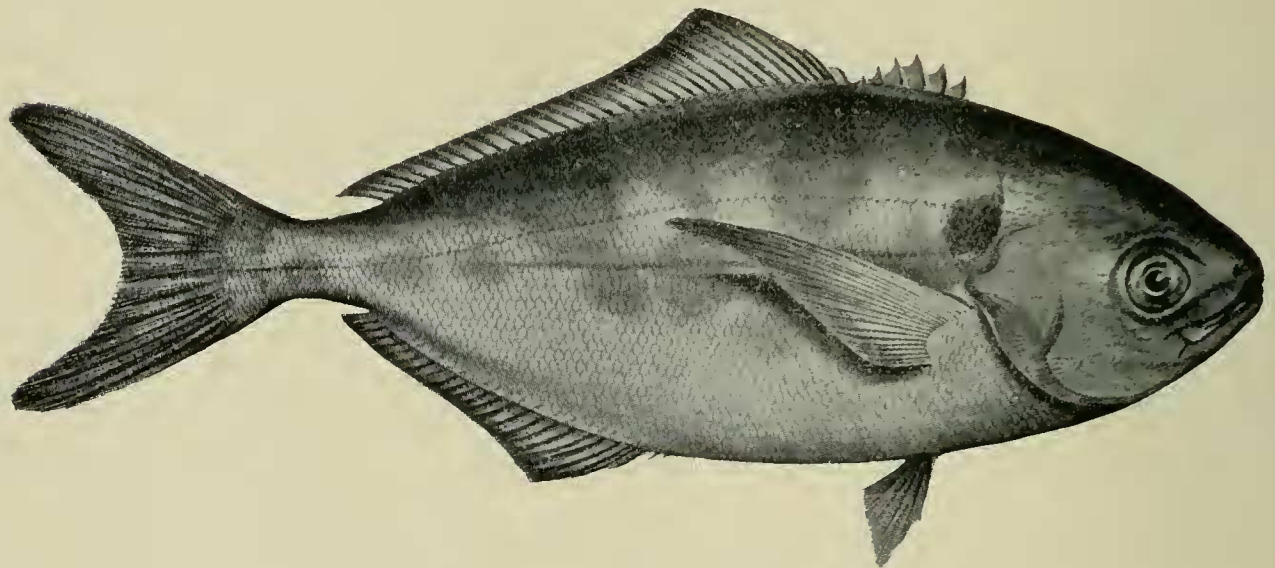


Fig. 129. *Sphyraena obtusata*.

SUB-ORDER STROMATEOIDEA.**FAMILY STROMATEIDAE.****SERIOLELLA** Guichenot, 1848 (*porosa*).**SERIOLELLA BRAMA** Günther (*Sea Bream*).*Neptonemus brama* Günth., Cat. Fish. Brit. Mus., ii, 1860, p. 390.*Neptonemus? travale* Cast, P.Z.S., Viet., i, 1872, p. 119.*Seriolella brama* Regan, A.M.N.H. (7), x, 1902, p. 129; Waite, Rec. Cant. Mus., i, 1911, p. 229, pl. 1; McCull., Endeavour Res., i, 1911, p. 34, pl. ix, fig. 1.Fig. 130. *Seriolella brama*.

The Warehouse of New Zealand, where it is fairly common and esteemed as food.

HYPEROGLYPHE Günther, 1859 (*porosa*).**HYPEROGLYPHE POROSA** Richardson (*Deep-sea Trevally*).*Diagramma porosa* Rich., Zool. Ereb. & Terr., 1845, p. 26, pl. xvi., fig. 5, 6.*Hyperoglyphe porosa* Günth., Cat. Fish. Brit. Mus., i, 1859, p. 337.*Eurumetopos johnstonii* Morton, P.R.S., Tasm., 1888, p. 77 and plate; Waite, T.N.Z. Inst., xlv, 1912, p. 200, pl. xii.*Schedophilus porosus* Waite, Mem. N.S.W. Nat. Club, 1904, p. 24.*Hyperoglyphe johnstonii* McCull., Endeavour Res., ii, 1914, p. 95, pl. xviii.

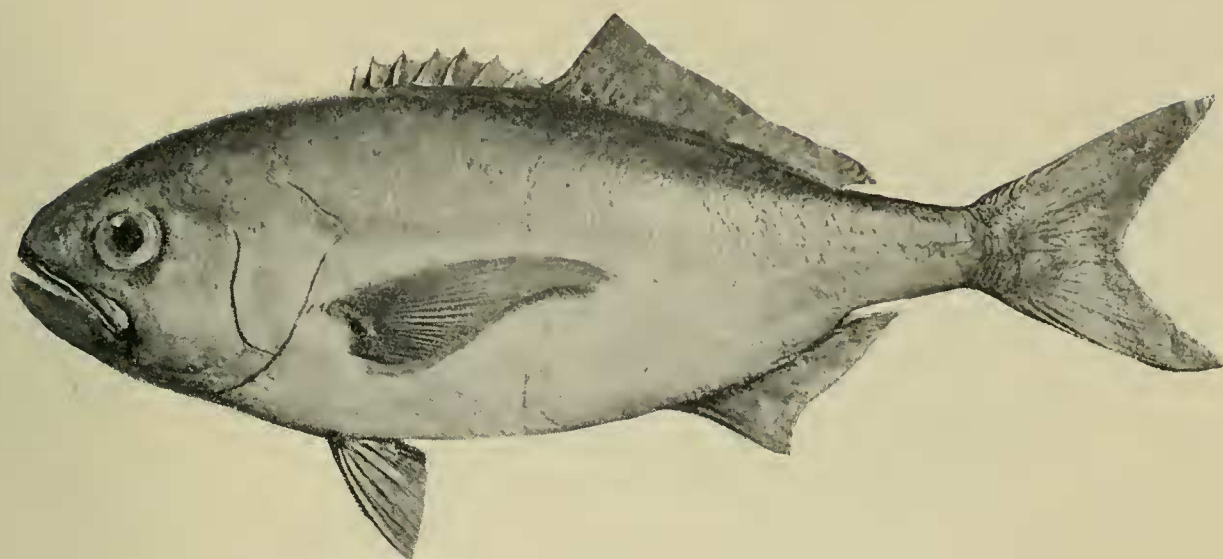


Fig. 131. *Hyperoglyphe porosa*.

A large and excellent fish of erratic occurrence. Large quantities have at times been taken at the Chatham Islands.

SUB-ORDER PERCOIDEA.

DIVISION PERCIFORMES.

FAMILY SERRANIDAE.

PERCALATES Ramsay & Ogilby, 1887 (colonorum).

PERCALATES COLONORUM Günther (Australian Perch, Taralgi).

Lates colonorum Günth., A.M.N.H. (3), xi, 1863, p. 114; McCoy, Prod. Zool. Viet., dec. ii, 1878, pl. xiv.

Dules novem-aculeatus Steind., Sitzb. Akad. Wiss. Wien, liii, 1866, p. 428, pl. ii, fig. 1.

Lates similis, *L. antarcticus*, and *L. victoriae* Cast., P.Z.S., Viet., i, 1872, p. 44, 45.

Lates curtus Cast., Res. Fish. Aust., 1875, p. 5.

Lates ramsayi Macl., P.L.S., N.S.W., v, 1881, p. 306.

Percalates colonorum Rams. & Ogil., P.L.S., N.S.W. (2), ii, 1887, p. 182; Ogil., Edib. Fish. N.S.W., 1893, p. 2, pl. i; Stead, Edib. Fish. N.S.W., 1908, p. 53, pl. xx.

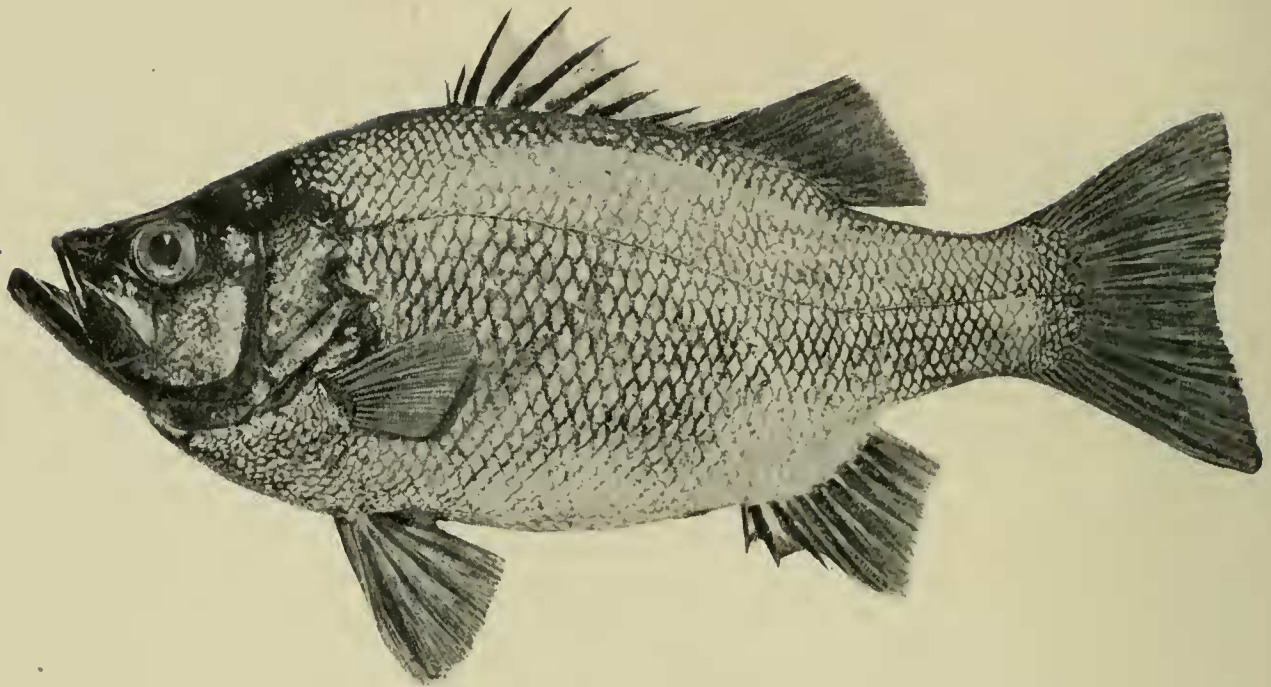


Fig. 132. *Peralates colonorum*.

A good table fish and a favourite with river anglers.

PLECTROPLITES Gill, 1862 (ambiguus).

PLECTROPLITES AMBIGUUS Richardson (Callop, Tarki).

Datunia? ambigua Rich., Zool. Ereb. & Terr., 1845, p. 25, pl. xix.

Dules ambiguus Günth., Cat. Fish. Brit. Mus., i, 1859, p. 270; Klunz., Sitzb. Akad. Wiss. Wien, lxxx, 1880, p. 348.

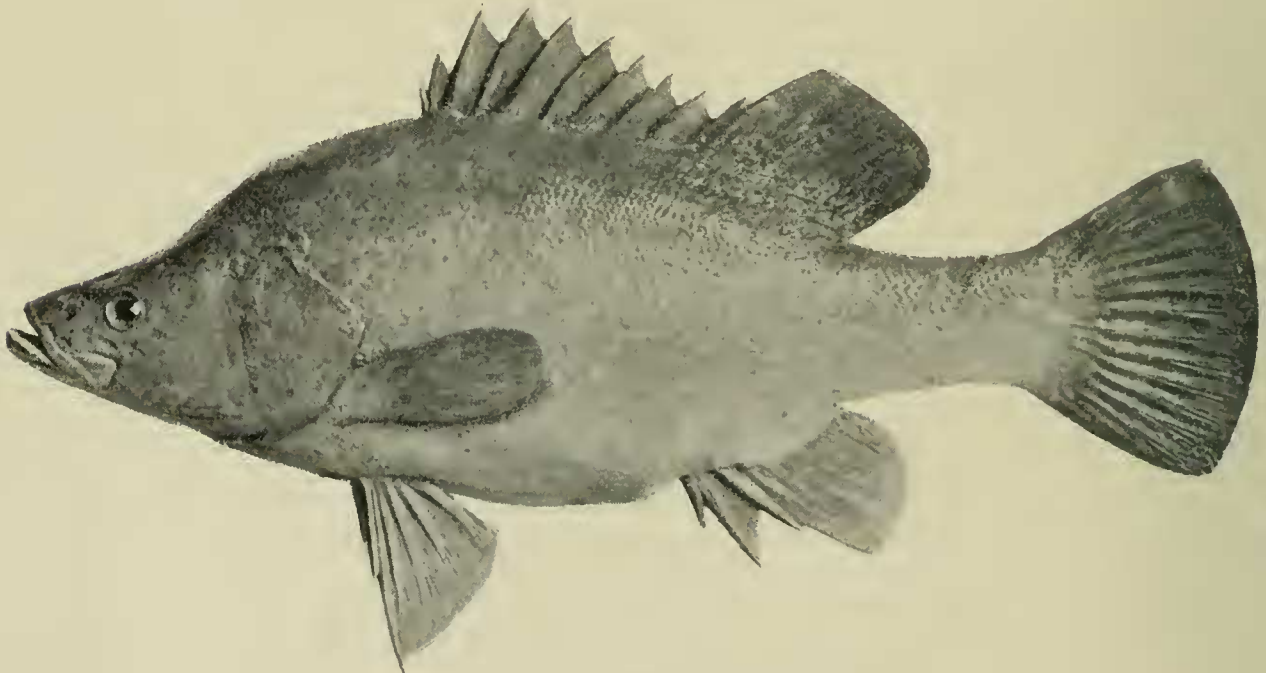


Fig. 133. *Plectroplites ambiguus*.

Plectroplites ambiguus Gill, Proc. Acad. Nat. Sci. Phil., 1863, p. 286; Stead, Edib. Fish. N.S.W., 1908, p. 55, pl. xxiii; Roughley, Fish. Aust., 1916, p. 67, pl. xvii.

Ctenolates macquariensis Günth., P.Z.S., 1871, p. 320, pl. xxxiii.

Dules auratus Cast., P.Z.S., Viet., i, 1872, p. 55.

Dules flavescens Cast., Res. Fish. Aust., 1875, p. 10.

Ctenolates ambiguus Günth., Chall. Rep., i, 1880, p. 32; McCoy, Prod. Zool. Viet., dec: ix, 1884, pl. lxxxiv; Ogil, Edib. Fish. N.S.W., 1893, p. 22, pl. v.

Also known as Murray Perch and Golden Perch. Second only to the Murray Cod as a river fish; by some preferred on account of the less oily nature of the flesh; also esteemed when smoked.

MACQUARIA Cuvier & Valenciennes, 1830 (australasia).

MACQUARIA AUSTRALASICA Cuvier & Valenciennes (Macquarie Perch).

Macquaria australasia Cuv. & Val., Hist. Nat. Poiss., v, 1830, p. 377, pl. cxxxi; Less. & Garn., Voy. Coquille, ii, 1830, p. 194, pl. xiv, fig. 1; Ogil, Edib. Fish. N.S.W., 1893, p. 24, pl. iv.

Dules riverrinus Krefft, P.Z.S., 1867, p. 943.

Murrayia güntheri, *M. cyprinoides*, and *M. bramoides* Cast., P.Z.S., Viet., i, 1872, p. 61, 62, 63.

Riverina fluviatilis Cast., *op. cit.*, p. 64.

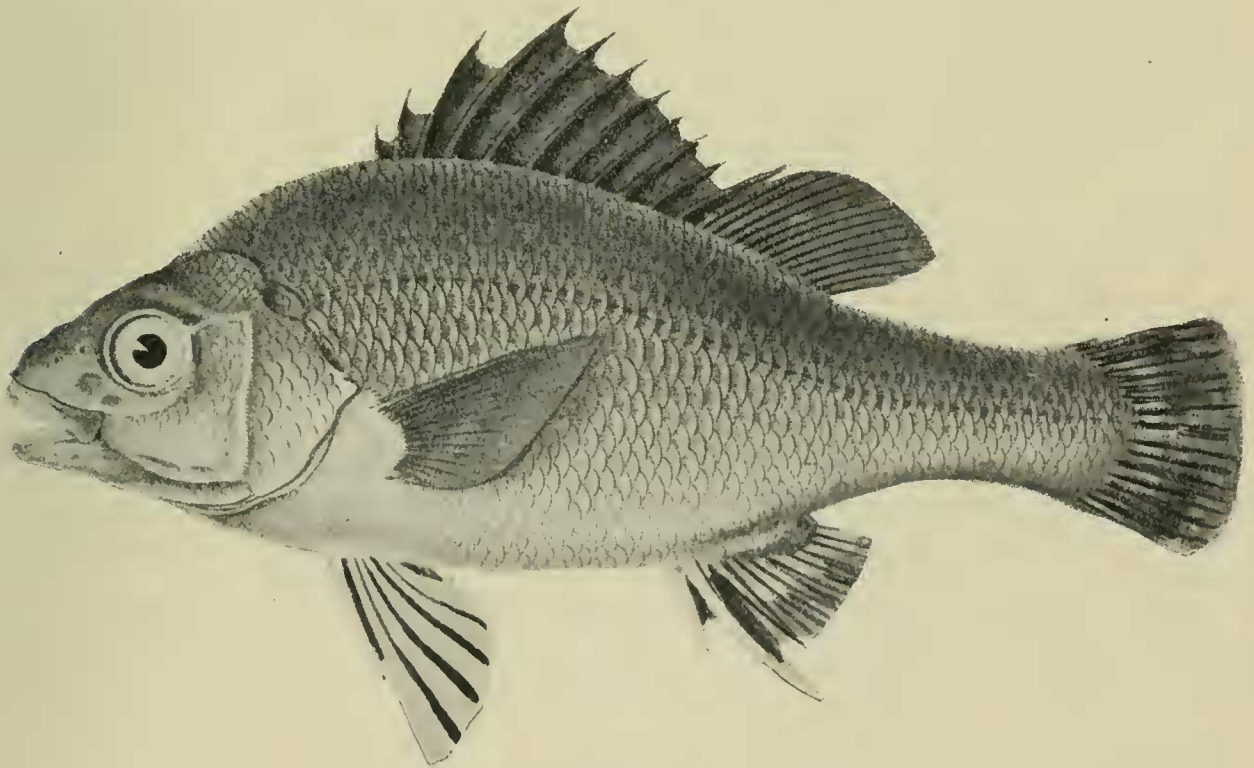


Fig. 134. *Macquaria australasica*.

An excellent table fish, but as with many of our River Murray fish, catches are sent to Melbourne rather than to Adelaide.

OLIGORUS Günther, 1859 (*macquariensis*).

OLIGORUS MACQUARIENSIS Cuvier & Valenciennes (Murray Cod, Poudi).

Grystes macquariensis Cuv. & Val., Hist. Nat. Poiss., iii, 1829, p. 58; Guérin, Icon. Règ. Anim. Poiss., 1844, pl. v, fig. 2; Rich., Zool. Ereb. & Terr., 1848, p. 118, pl. liii.

Grystes brisbanii Less., Voy. Coquille, Zool. ii, 1831, p. 227.

Gristes peclii Mitch., Exp. Aust., i, 1838, p. 95, pl. v, fig. 1.

Oligorus macquariensis Günth., Cat. Fish. Brit. Mus., i, 1859, p. 251; McCoy, Prod. Zool. Vict., dec. ix, 1884, pl. lxxxv, lxxxvi; Ogil., Edib. Fish. N.S.W., 1893, p. 17, pl. viii; Stead, Edib. Fish. N.S.W., 1908, p. 56, pl. xxiv; Roughley, Fish. Aust., 1916, p. 62, pl. xvi.

Oligorus mitchellii Cast., P.Z.S., Vict., ii, 1873, p. 150.

Homodemus cavifrons De Vis, P.L.S., N.S.W., ix, 1884, p. 396.

Oligorus gibbiceps MacL., P.L.S., N.S.W., x, 1885, p. 267.

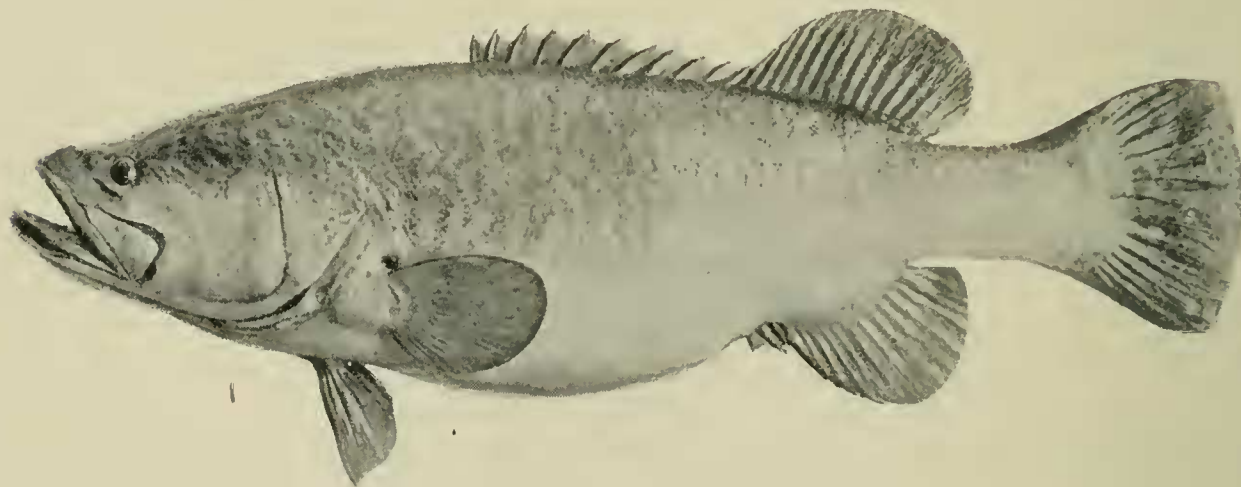


Fig. 135. *Oligorus macquariensis*.

The largest and most esteemed fresh-water fish: is smoked and cured in various ways. Attains to a length of nearly 5 feet and a weight of 100 lb.

COLPOGNATHUS Klunzinger, 1880 (*dentex*).

COLPOGNATHUS DENTEX Cuvier & Valenciennes (Harlequin Fish).

Plectropoma dentex Cuv. & Val., Hist. Nat. Poiss., ii, 1828, p. 394; Quoy & Gaim., Voy. Astrol., 1835, p. 660, pl. iv fig. 2; Rich., Zool. Ereb. & Terr., 1848, p. 117, pl. lvii, fig. 3-5.

Plectropoma richardsonii Günth., P.Z.S., 1861, p. 391, pl. xxxviii.

Colpognathus dexter Klunz., Sitzb. Akad. Wiss. Wien, lxxx, 1880, p. 339, pl. i, fig. 1 (head); Boul., Cat. Fish. Brit. Mus. (2), i, 1895, p. 310, fig. 21 (dentition).

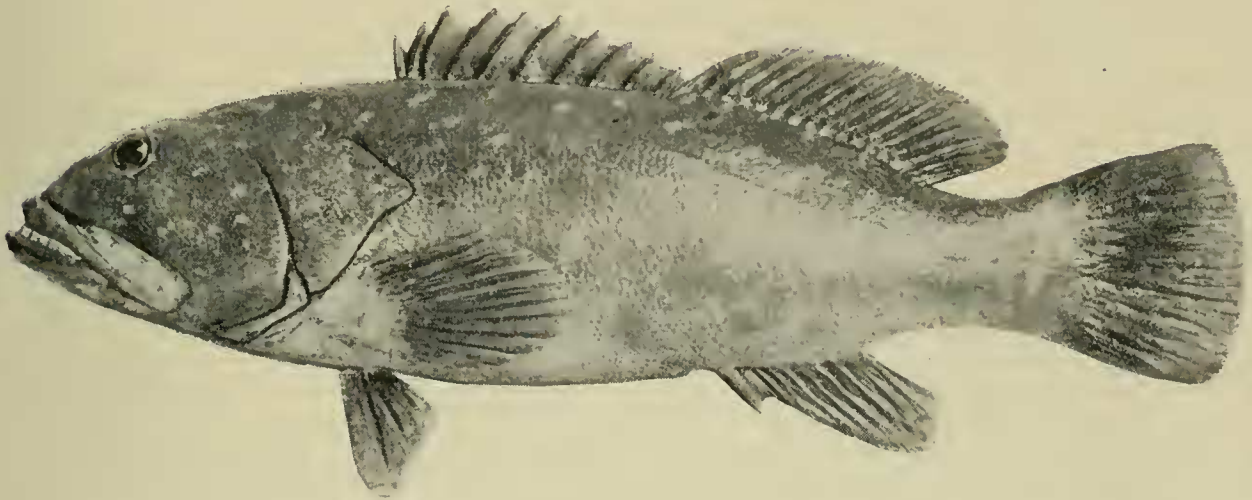


Fig. 136. *Colpognathus dexter*.

A good eating fish, but seldom seen in the markets. Of gorgeous colouration; scarlet, with blue spots and yellow markings.

CALLANTHIAS Lowe, 1839 (*paradisaeus*).

CALLANTHIAS ALLPORTI Günther (Allport's Perch).

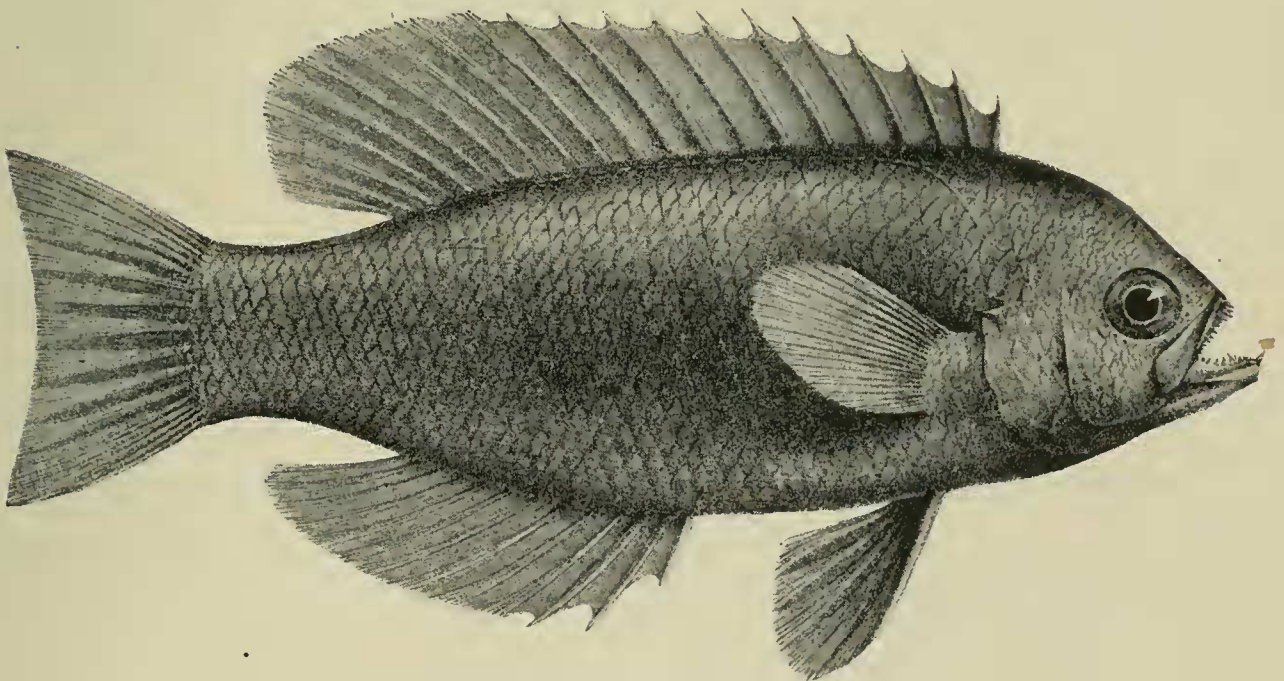


Fig. 137. *Callanthias allporti*.

Callanthias allporti Günth., A.M.N.H. (4), xvii, 1876, p. 390; Boul., Cat. Fish. Brit. Mus. (2), i, 1895, p. 335, pl. xv; Waite, Prelim. Rep. Thetis Exped., 1898, p. 31, pl. ii; McCull., Endeavour Rep., i, 1911, p. 51.

Callanthias platei Boul., A.M.N.H. (7), iii, 1899, p. 346; Waite, Mem. Aust. Mus., iv, 1899, p. 80.

Callanthias platei australis and *Anogramma allporti* Ogil., P.L.S., N.S.W., xxiv, 1899, p. 173, 175.

Not very common in Australian waters, but said to occur in large shoals off the west coast of America.

CAESIOPERCA Castelnau, 1872 (rasor).

CAESIOPERCA RASOR Richardson (Red Perch).

Serranus rasor Rich., P.Z.S., 1839, p. 95 and T.Z.S., iii, 1849, p. 73, pl. iv, fig. 1.

Anthias rasor Günth., Cat. Fish. Brit. Mus., i, 1859, p. 93.

Caesioperca rasor Cast., P.Z.S., Viet., i, 1872, p. 49.

Anthias extensus Klunz., Sitzb. Akad. Wiss. Wien, lxxx, 1880, p. 339, pl. ii.

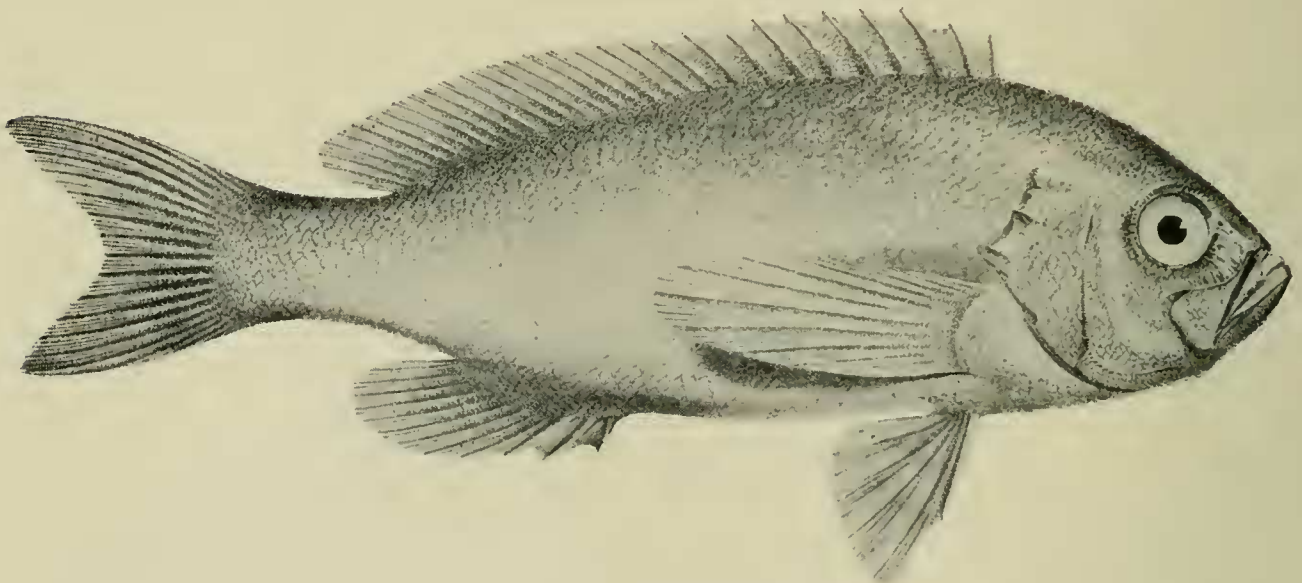


Fig. 138. *Caesioperca rasor*.

Common in winter in Tasmania, where it is known as The Barber.

CAESIOPERCA LEPIDOPTERA Forster (Butterfly Perch).

Epinephelus lepidopterus Forst., in Bl. & Schm., Syst. Ichth., 1801, p. 302.

Serranus lepidopterus Rich., A.M.N.H., ix, 1842, p. 18.

Percia lepidoptera Forst., Deser. Anim., 1844, p. 138.

Anthias richardsonii Günth., P.Z.S., 1869, p. 429.

Scorpius hectori Hutt., Cat. Fish. N.Z., 1872, p. 4, pl. i, fig. 4.

Pseudanthias lepidopterus Gill., Mem. Acad. Wash., vi, 1894, p. 116.

Caesioperea lepidoptera Boul., Cat. Fish. Brit. Mus. (2), i, 1895, p. 312;
Roughley, Fish. Aust., 1916, p. 75, pl. xvi.

Anthias lepidopterus Waite, Prelim. Rep. Thetis Exped., 1898, p. 31, pl. i.

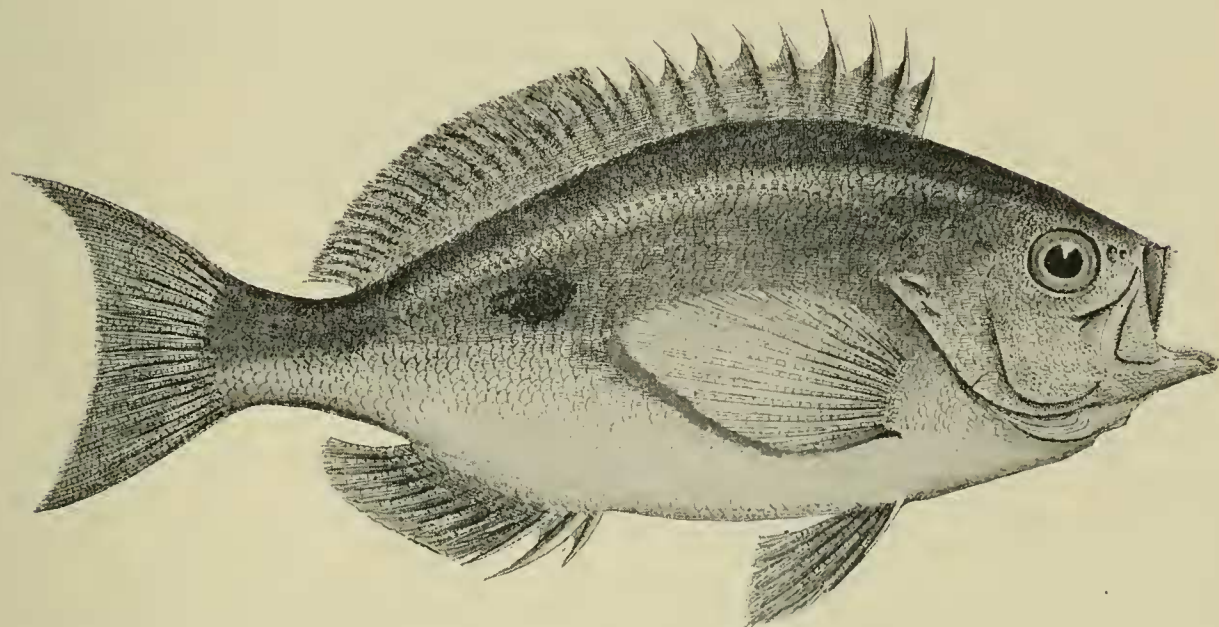


Fig. 139. *Caesioperea lepidoptera*.

Commonly taken at moderate depths off New South Wales and Tasmania, where it is much esteemed. It was almost unknown until the advent of the trawl.

HYPOPLECTRODES Gill, 1862 (*nigroruber*).

HYPOPLECTRODES NIGRORUBER Cuvier & Valenciennes (Black-banded Sea Perch).

Plectropoma nigrorubrum Cuv. & Val., Hist. Nat. Poiss., ii, 1828, p. 402; Quoy & Gaim., Voy. Astrol., iii, 1835, p. 659, pl. iv, fig. 1; Ogil., Edib. Fish. N.S.W., 1893, p. 11.

Hypoplectrodes nigroruber Gill (Poey), Ann. Lye. Nat. Hist. N. York, x, 1871, p. 45.

Gilbertia nigrorubra Boul., Cat. Fish. Brit. Mus. (2), i, 1895, p. 308.

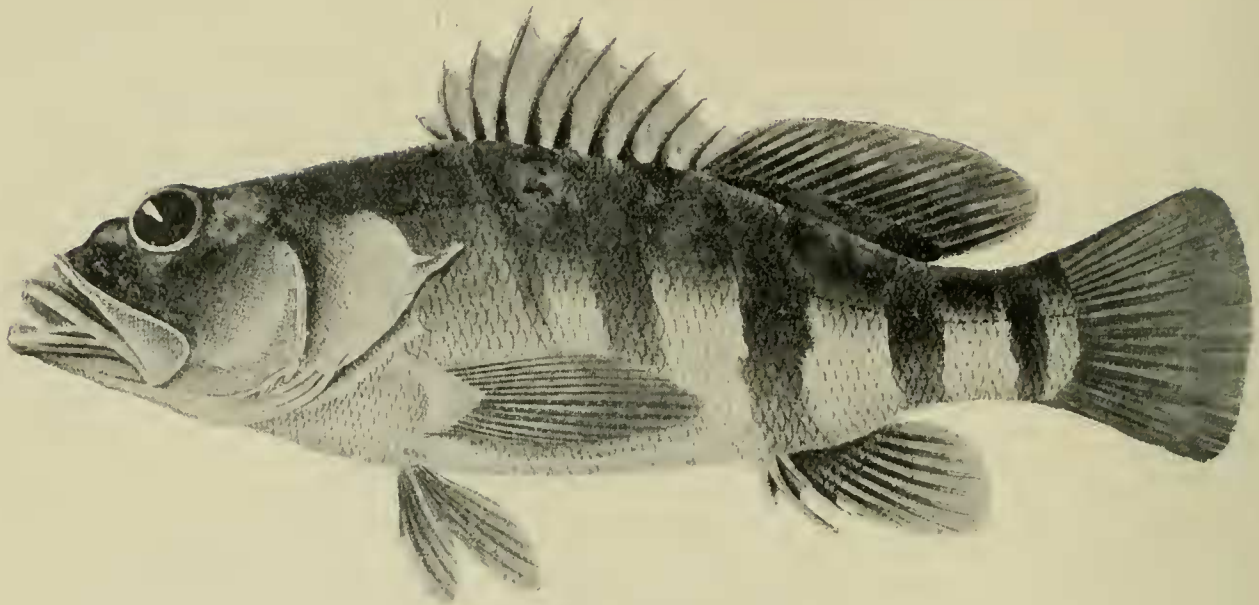


Fig. 140. *Hypoplectrodes nigroruber*.

Occurs from Eastern to Western Australia, and though much appreciated is not common.

FAMILY CENTRARCHIDAE.

NANNOPERCA Günther, 1861 (*australis*).

NANNOPERCA AUSTRALIS Günther (Pigmy Perch).

Nannoperca australis Günth., P.Z.S., 1861, p. 116, pl. xix, fig. 2; McCull. &

Waite, Rec. S. Aust. Mus., i, 1918, p. 46, pl. ii, fig. 1.

Paradules lectus Klunz., Arch. f. Naturg., xxxviii, 1872, p. 21.

?*Microperca yarrae* Cast., P.Z.S., Vict., i, 1872, p. 48.

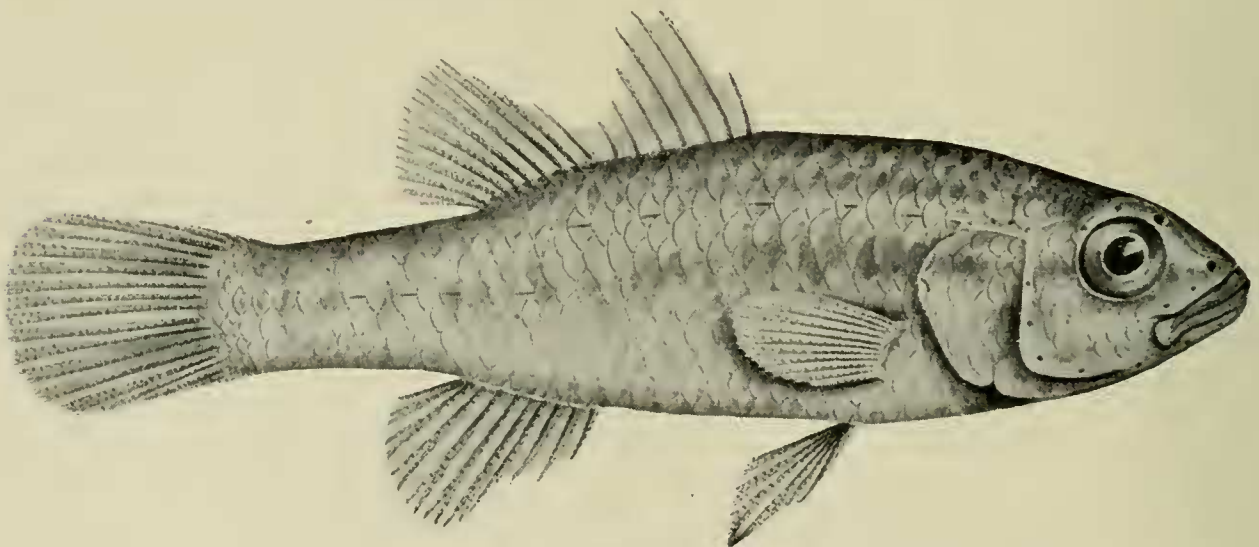


Fig. 141. *Nannoperca australis*.

?*Nannoperca riverinae* MacL., P.L.S., N.S.W., v, 1881, p. 342.

?*Microperca tasmaniae* Johnston, P.R.S., Tasm., 1883, p. 110.

Micropena Zietz, T.R.S., S.A., xxvi, 1902, p. 265.

An excellent fresh-water aquarium fish.

FAMILY THERAPONIDAE.

THERAPON Cuvier, 1817 (servus); (originally spelt *Terapon*).

THERAPON PERCOIDES Günther (Black-striped Perch).

Therapon percoides Günth., A.M.N.H. (3), xiv, 1864, p. 374; Zietz, Rep. Horn. Exped., ii, 1896, p. 177, pl. xvi, fig. 1; Ogil. & McCull., Mem. Qld. Mus., v, 1916, p. 105, pl. x, fig. 1.

Datnia fasciata Steind., Sitzb. Akad. Wiss. Wien, lvi, 1867, p. 322.

Therapon fasciatus Cast., Res. Fish. Aust., 1875, p. 11.

Therapon terrae-reginae Cast., P.L.S., N.S.W., ii, 1878, p. 227.

Therapon spinosior De Vis, P.L.S., N.S.W., ix, 1884, p. 397.

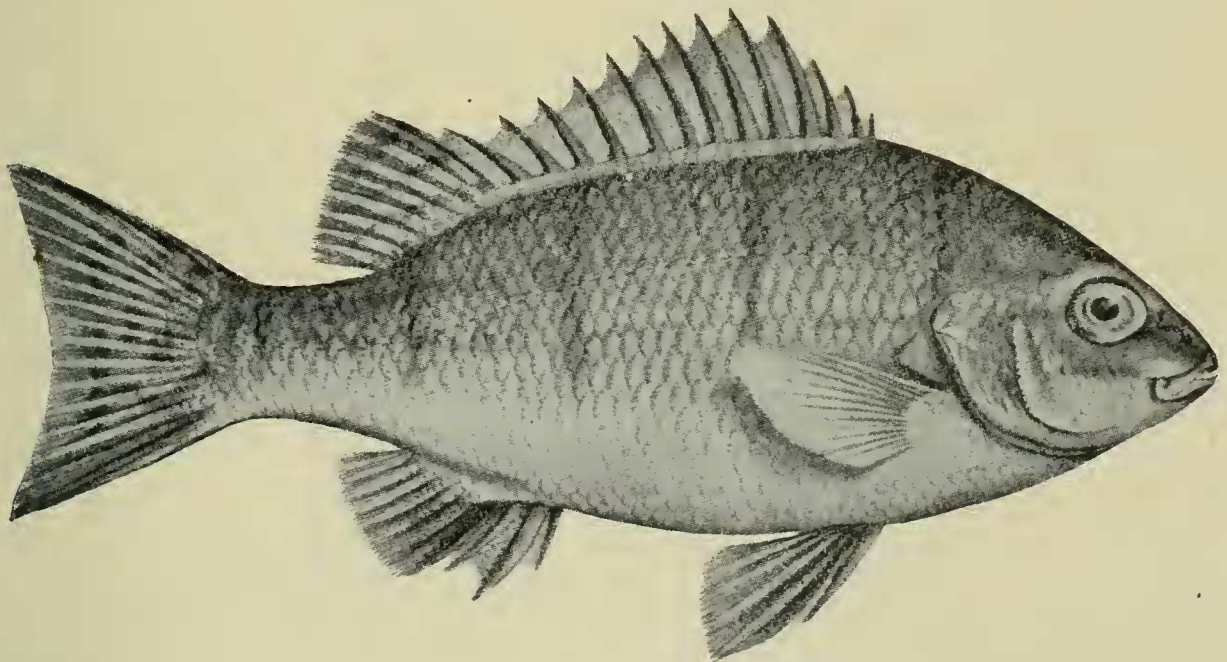


Fig. 142. *Therapon percoides*.

In Australia, the members of the genus *Therapon* are confined to fresh-water.

THERAPON BIDYANA Mitchell (Silver Perch, Tcheri).

Acerina (Cernua) bidyana Mitch., Exped. Aust., i, 1838, p. 95, pl. viii.

Datnia elliptica Rich., Zool. Ereb. & Terr., 1848, p. 118, pl. lii, fig. 4-8.

Therapon ellipticus Günth., Cat. Fish. Brit. Mus., i, 1859, p. 276; Ogil., Edib. Fish. N.S.W., 1893, p. 28, pl. vi; Stead, Fish. Aust., 1906, p. 123, pl. iv and Edib. Fish. N.S.W., 1908, p. 73, pl. xlii.

Therapon niger and *T. richardsoni* Cast., P.Z.S., Viet., i, 1872, p. 59, 60.

Therapon macleayana Rams., P.L.S., N.S.W., vi, 1882, p. 831.

Therapon bidyana McCull., Rec. Aust. Mus., ix, 1913, p. 359 and P.L.S., N.S.W., xl, 1915, p. 262, pl. xxxvi, fig. 1; Ogil. & McCull., Mem. Qld. Mus., v, 1916, p. 112.

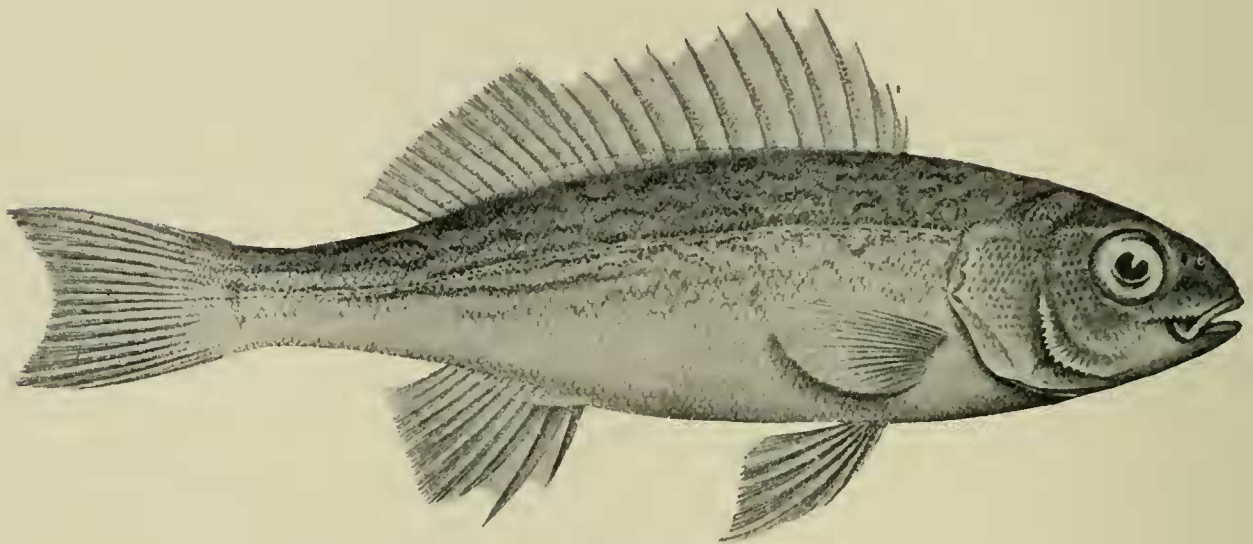


Fig. 143. *Therapon bidyana*.

A good sporting and food fish, common in the River Murray system.

THERAPON UNICOLOR Günther.

Therapon unicolor Günth., Cat. Fish. Brit. Mus., i, 1859, p. 277; Ogil. & McCull., Mem. Qld. Mus., v, 1916, p. 109, pl. xi, fig. 1.

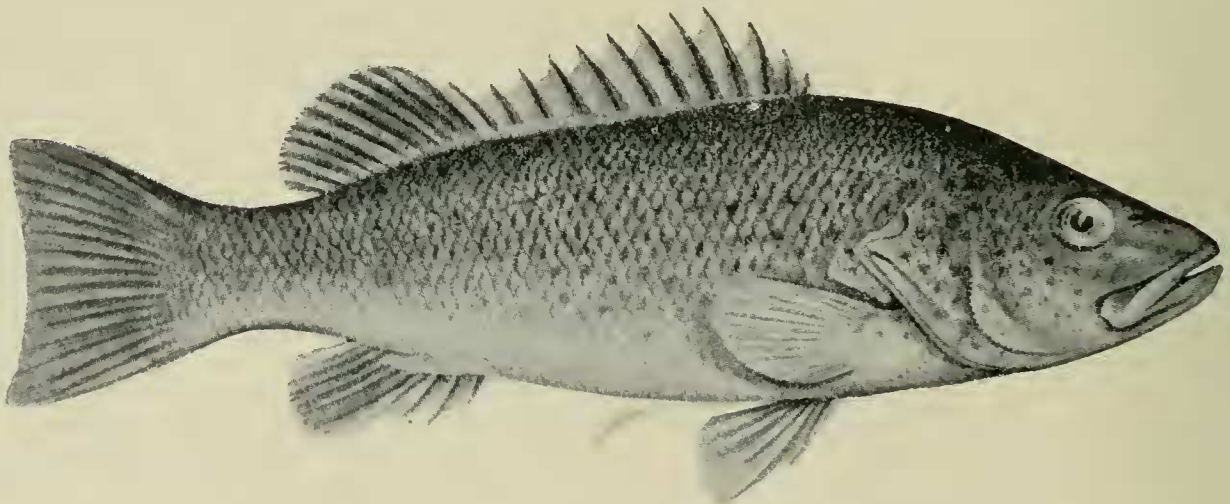


Fig. 144. *Therapon unicolor*.

?*Datnia brevispinis* Steind., Sitzb. Akad. Wiss. Wien, lvi, 1867, p. 309.

Therapon truttaceus and *T. longulus* Mael., P.L.S., N.S.W., v, 1881, p. 366, 367.

Therapon elphinstonensis De Vis, P.R.S., Qld., i, 1885, p. 57.

Therapon idoneus Ogil., P.R.S., Qld., xx, 1907, p. 37.

In common with *T. percoides* this species ranges into Central Australia, where it lies dormant in the mud during periods of drought.

THERAPON WELCHI McCulloch & Waite.

Therapon welchi McCull. & Waite, T.R.S., S.A., xli, 1917, p. 472, fig. 1.

This and the following species are, so far, known only from Cooper Creek, in Central Australia.

THERAPON BARCOO McCulloch & Waite.

Therapon barcoo McCull. & Waite, T.R.S., S.A., xli, 1917, p. 474, fig. 2.

HELOTES Cuvier, 1829 (sexlineatus).

HELOTES SEXLINEATUS Quoy & Gaimard (Striped Perch).

Therapon serlineatus Quoy & Gaim., Voy. Uranie & Physic., 1824, p. 340, pl. lx, fig. 1.

Helotes sexlineatus Cuv. & Val., Hist. Nat. Poiss., iii, 1829, p. 149, pl. lvi; Valenciennes in Cuv., Règ. Anim. III. Poiss., 1839, pl. xii, fig. 3; Bleek., Atl. Ichth., vii, 1876, p. 118, pl. ccxlii, fig. 5; Kner, Reise Novara, Fisch., 1865, p. 46, pl. iii, fig. 1.

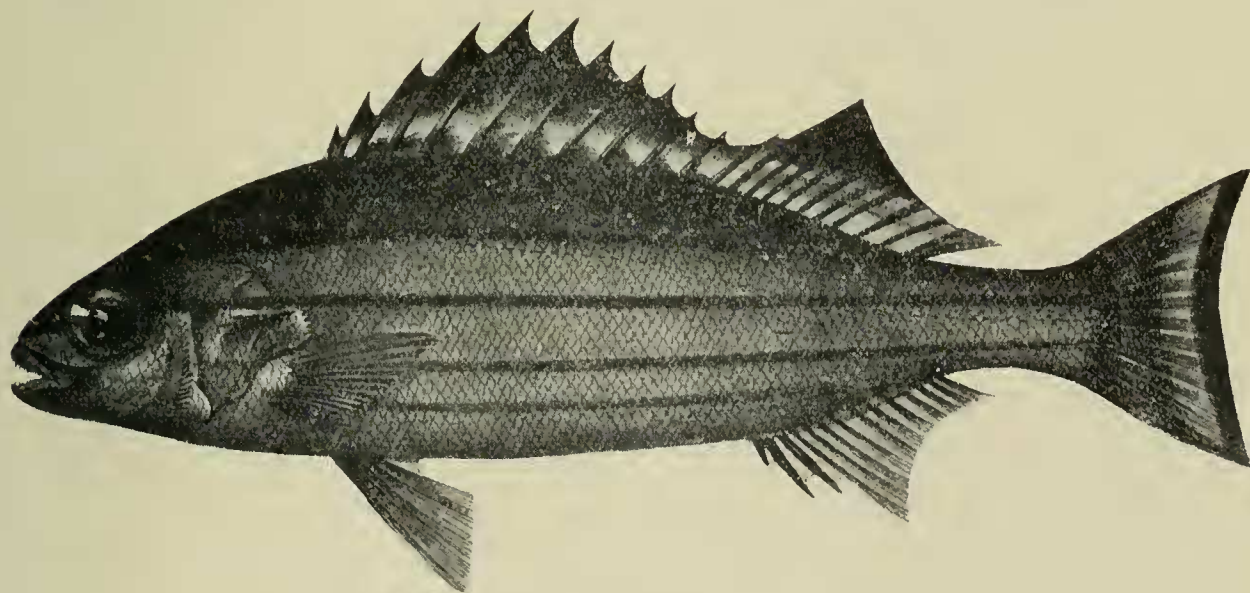


Fig. 147. *Helotes serlineatus*.

?*Helotes profundior* De Vis, P.L.S., N.S.W., ix, 1884, p. 397.

?*Helotes scotus* Haacke, Zool. Anz., viii, 1885, p. 508.

Our only marine species of the Family.

FAMILY PLESIOPIDAE.

PARAPLESIOPS Bleeker, 1875 (bleekeri).

PARAPLESIOPS MELEAGRIS Peters (Blue Devil).

Plesiops meleagris Peters, Mon. Akad. Wiss. Berlin, 1870, p. 708.

Ruppellia prolongata Cast., Res. Fish. Aust., 1875, p. 29 (not of 1873).

Paraplesiops meleagris Boul., Cat. Fish. Brit. Mus. (2) i, 1895, p. 339; McCull.,
Rec. W.A. Mus., i, 1912, p. 84, pl. ix.

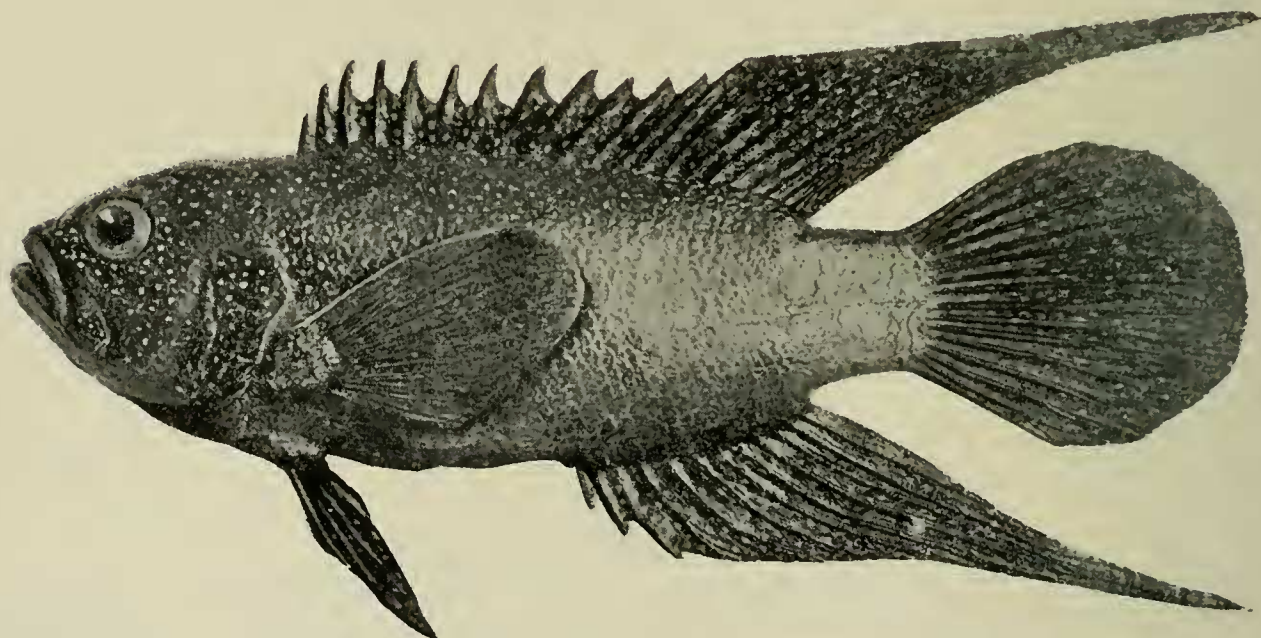


Fig. 148. *Paraplesiops meleagris*.

Of intense blue colour with pale blue spots.

PARAPLESIOPS GIGAS Steindachner.

Plesiops gigas Steind., Anz. Akad. Wiss. Wien, xx, 1883, p. 196 and Sitzb., Akad.
Wiss. Wien, lxxxviii, 1884, p. 1089.

Paraplesiops gigas Boul., Cat. Fish. Brit. Mus., i, 1895, p. 339.

FAMILY APOGONIDAE.

APOGON Lacepède, 1802 (*ruber*).**APOGON CONSPERSUS** Klunzinger (Soldier Fish).

Apogon conspersus Klunz., Arch. f. Naturg., xxxviii, 1872, p. 18 and Sitzb. Akad. Wiss. Wien, lxxx, 1880, p. 344, pl. iii, fig. 2; Steind., Sitzb. Akad. Wiss. Wien, lxxxviii, 1884, p. 1066, pl. i, fig. 1.

Vincentia waterhousii Cast., P.Z.S., Vict., i, 1872, p. 245.

Apogon opercularis Macl., P.L.S., N.S.W., ii, 1878, p. 347, pl. vii, fig. 1.

Amia conspersa McCull., Endeavour Res., ii, 1914, p. 103.

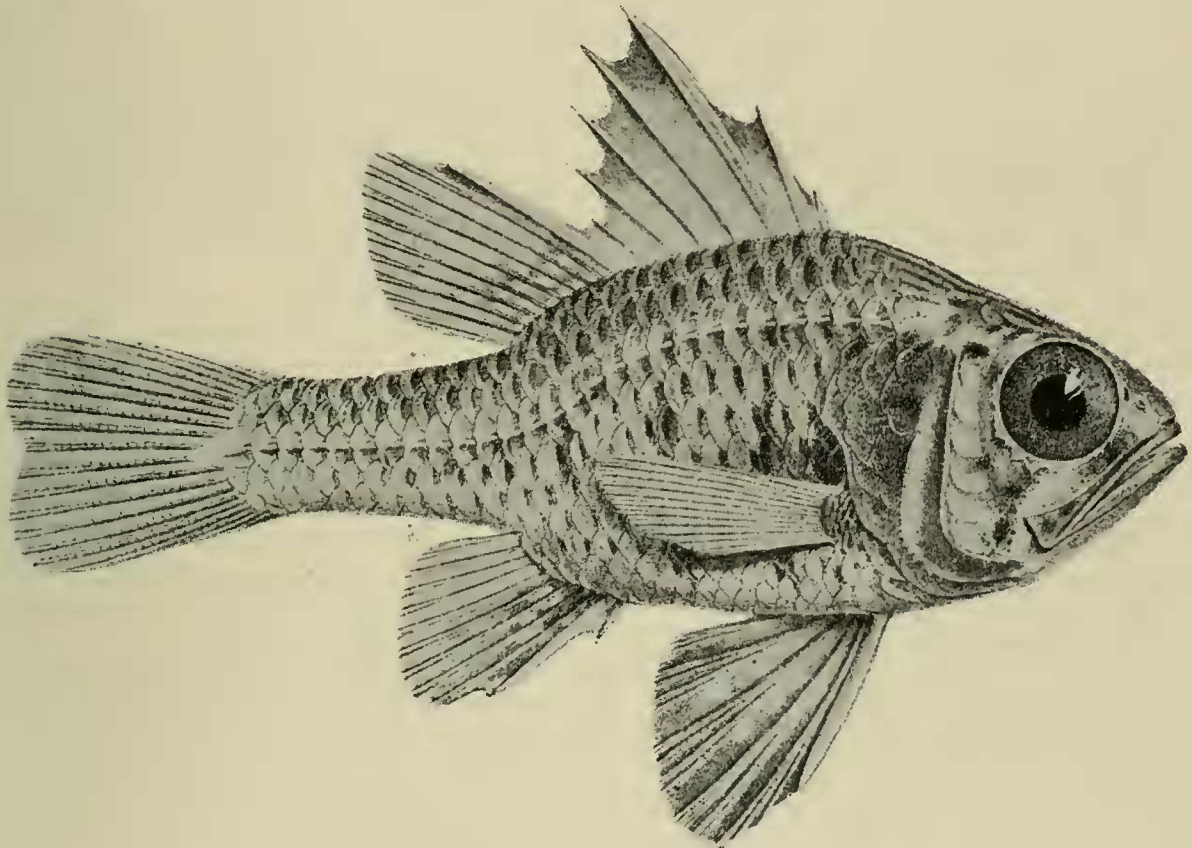


Fig. 150. *Apogon conspersus*.

DINOLESTES Klunzinger, 1872 (*mulleri*=*lewini*).**DINOLESTES LEWINI** Griffith (Long-finned Pike).

Esox lewini Griffith, Ann. King., x, 1834, p. 465, pl. lx.

Dinolestes muelleri Klunz., Arch. f. Naturg., 1872, p. 30, pl. iii; Ogil., Edib. Fish. N.S.W., 1893, p. 115.

Neosphyraena multiradiata Cast., P.Z.S., Vict., i, 1872, p. 97.

Lanioperca mordax Günth., A.M.N.H. (4), x, 1872, p. 183; McCoy, Prod. Zool. Vict., dec. xii, 1886, pl. cxv.

Dinolestes lewini Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 30.

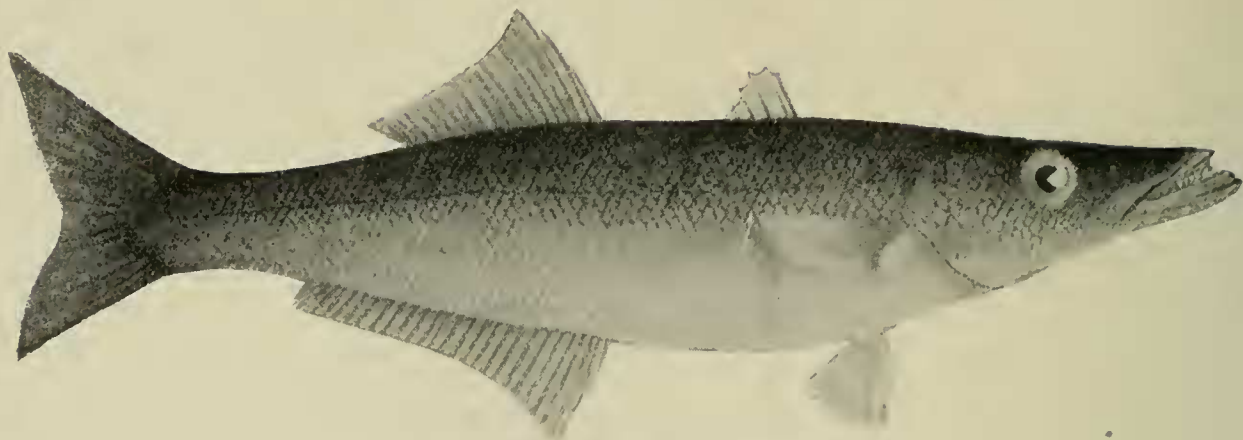


Fig. 151. *Dinolestes lewini*.

This fish has no near relationship to the Snook, which is also known as the Short-finned Pike.

FAMILY SILLAGINIDAE.

SILLAGINODES Gill, 1861 (*punctatus*).

SILLAGINODES PUNCTATUS Cuvier & Valenciennes (Spotted Whiting).

Sillago punctata Cuv. & Val., Hist. Nat. Poiss., iii, 1829, p. 413; Quoy & Gaim.

Voy. Astrol., iii, 1835, p. 671, pl. i, fig. 1; Stead, Edib. Fish. N.S.W., 1908, p. 66, pl. xxxvi.

Sillaginodes punctatus Gill, Proc. Acad. Nat. Sci. Phil., 1861, p. 505.

Isosillago maculata MacL., P.L.S., N.S.W., iii, 1878, p. 34, pl. iv, fig. 3 (not Quoy & Gaim.).

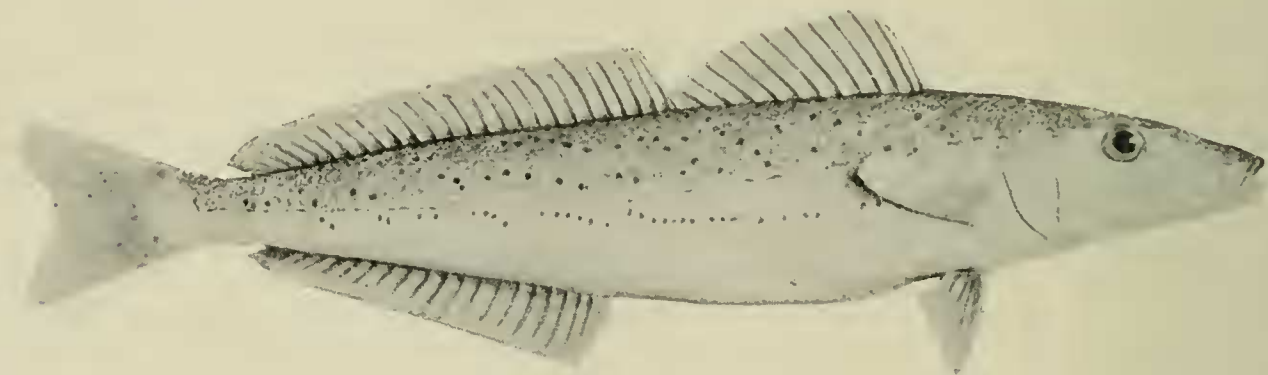


Fig. 152. *Sillaginodes punctatus*.

The largest and most esteemed of the Australian Whittings; attains a length of 20 inches.

SILLAGO Cuvier, 1817 (*acuta*).**SILLAGO BASSENSIS** Cuvier & Valenciennes (Bass Whiting).

Sillago bassensis Cuv. & Val., Hist. Nat. Poiss., iii, 1829, p. 412; Quoy & Gaim., Voy. Astrol., iii, 1835, p. 672, pl. i, fig. 2; Stead, Edib. Fish. N.S.W., 1908, p. 65, pl. xxxv.

Sillago maculata Cast., P.Z.S., Vict., i, 1872, p. 94 (not Quoy & Gaim.).

Sillago ciliata Johnston, P.R.S., Tasm., 1883, p. 80, 116 (not Cuv. & Val.).

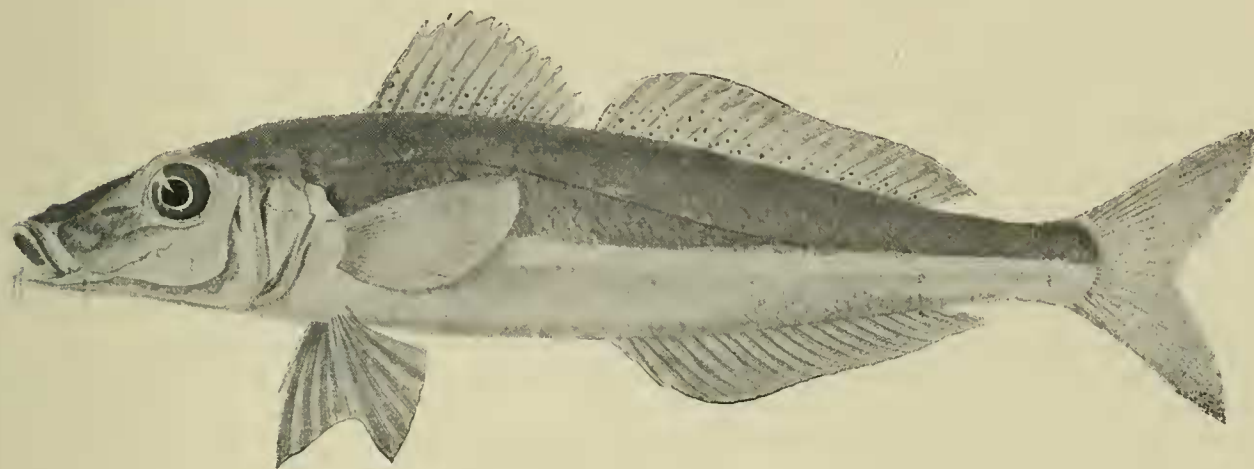


Fig. 153. *Sillago bassensis*.

The Australian Whittings are in no wise related to their European namesakes.

FAMILY CARANGIDAE.

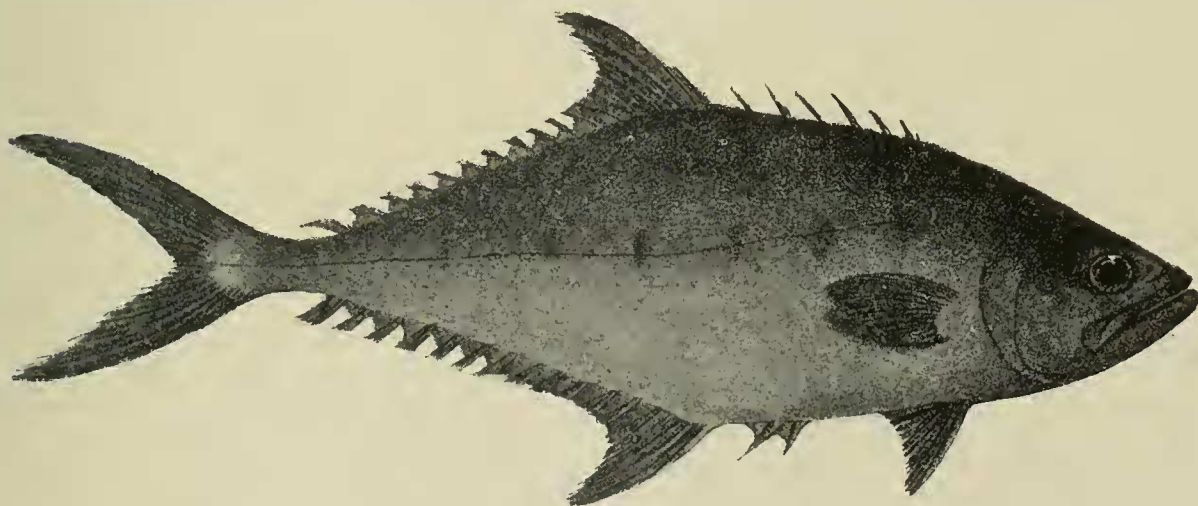
SCOMBEROIDES Lacepède, 1802 (*commersonianus*).**SCOMBEROIDES TOLOO** Cuvier & Valenciennes (Leather-skin).

Fig. 154. *Scomberoides tolooo*.

Chorinemus toloo Cuv. & Val., Hist. Nat. Poiss., viii, 1831, p. 377; Day, Fish. India, 1878, p. 232, pl. li A. fig. 3; Cast., Res. Fish. Aust., 1875, p. 19 (not *Lichia toloo-parah* Rüpp.).

SERIOLA Cuvier, 1817 (dumerilli).

SERIOLA GRANDIS Castelnau (Yellow-tail).

Seriola grandis Cast., P.Z.S., Viet., i, 1872, p. 115; McCull., Endeavour Res., iii, 1915, p. 121, pl. xxxv, fig. 1; Roughley, Fish. Aust., 1916, p. 97, pl. xxx.

Seriola lalandii Cast., P.L.S., N.S.W., iii, 1879, p. 352; McCoy, Prod. Zool. Viet., dec. xviii, 1889, pl. clxxii; Ogil., Edib. Fish. N.S.W., 1893, p. 82 (not Cuv. & Val.).

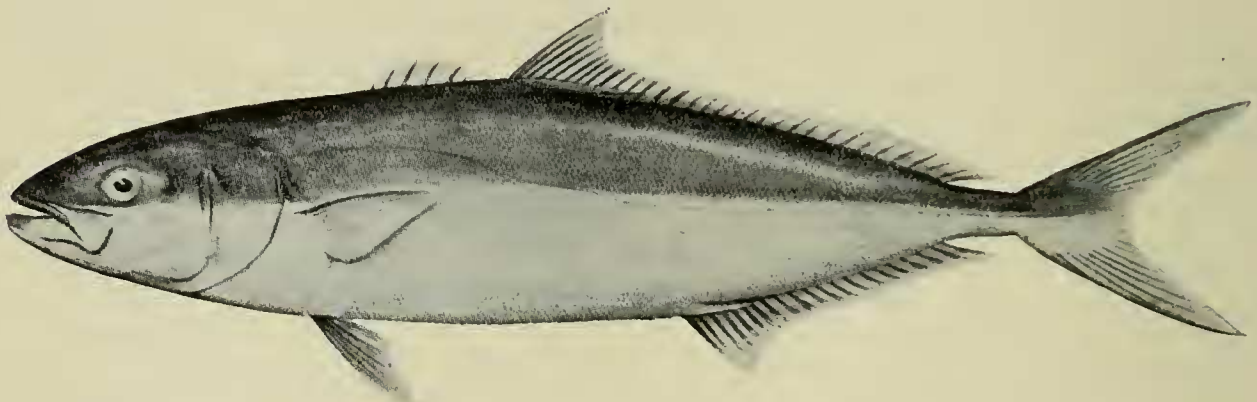


Fig. 155. *Seriola grandis*.

A good edible and sporting fish, attaining a weight of 60 lb.

TRACHURUS Rafinesque, 1810 (trachurus).

TRACHURUS NOVAE-ZELANDIAE Richardson (Horse Mackerel).

Trachurus novae-zelandiae Rich., Rep. Brit. Ass., 1843, p. 21; McCull., Endeavour Res., iii, 1915, p. 123, pl. xxxiv, fig. 3.

Trachurus trachurus Hutt., Cat. Fish. N.Z., 1872, p. 16, pl. iii, fig. 23; McCoy, Prod. Zool. Viet., dec. ii, 1878, pl. xviii; Ogil., Edib. Fish. N.S.W., 1893, p. 77 (not Linn.).

Trachurus declivis Waite, Mem. Aust. Mus., iv, 1899, p. 72 (not Jenyns).

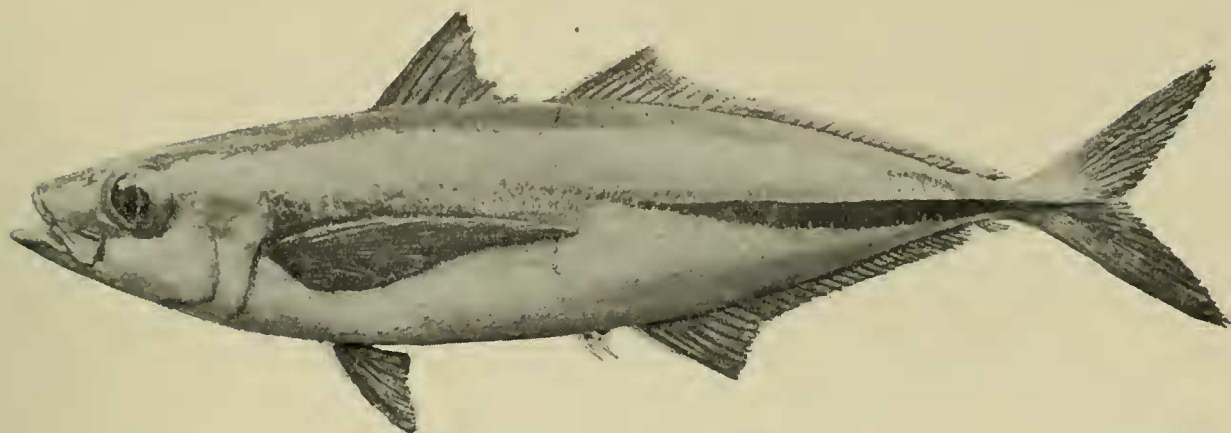
Decapterus leptosomus Stead, Edib. Fish. N.S.W., 1908, p. 87 (not Ogil.).

Very similar to the next species, the differences scarcely to be shown in an illustration.

TRACHURUS DECLIVIS Jenyns (Sead).

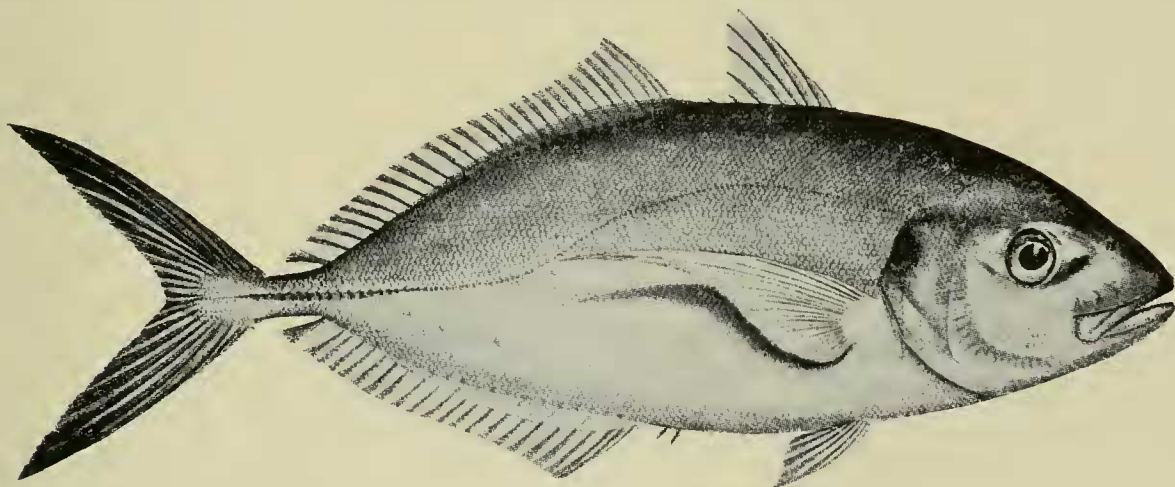
Caranx declivis Jenyns, Voy. Beagle, iii, 1842, p. 68, pl. xiv.

Trachurus declivis McCull., Endeavour Res., iii, 1915, p. 125, pl. xxxiv, fig. 2; Roughley, Fish. Aust., 1916, p. 101.

Fig. 157. *Trachurus declivis*.**CARANX** Lacepède, 1802 (*carangus*).**CARANX GEORGIANUS** Cuvier & Valenciennes (Trevally).

Caranx georgianus Cuv. & Val., Hist. Nat. Poiss., ix, 1833, p. 85; Rich., Zool. Ereb. & Terr., 1848, p. 135, pl. lviii, fig. 1-3; Ogil., Edib. Fish. N.S.W., 1893, p. 80, pl. xxiv; Stead, Edib. Fish. N.S.W., 1908, p. 87, pl. lvii; McCull., Endeavour Res., iii, 1915, p. 126, pl. xx; Roughley, Fish. Aust., 1916, p. 95, pl. xxix.

Caranx nobilis Macl., P.L.S., N.S.W., v, 1881, p. 532.

Fig. 158. *Caranx georgianus*.

Grows to 30 inches in length; it is an excellent food fish and is used fresh, salted, or smoked.

FAMILY POMATOMIDAE.

POMATOMUS Lacepède, 1802 (*skib*=saltator).**POMATOMUS SALTATOR** Linnaeus (Skipjack).

Perca saltatrix Linn., Syst. Nat. (ed. x), 1758, p. 293.

Tenmodon saltator Cuv. & Val., Hist. Nat. Poiss., ix, 1833, p. 225, pl. cclx; Valenc. in Cuv., Règ. Anim. III. Poiss., 1839, pl. lvi, fig. 3; McCoy, Prod. Zool. Viet., dec. xix, 1889, pl. clxxxiii; Ogil., Edib. Fish. N.S.W., 1893, p. 86, pl. xxv (ref.).

Pomatomus saltatrix Jord. & Gilb., Bull. U.S. Nat. Mus., xvi, 1883, p. 914; Stead, Edib. Fish. N.S.W., 1908, p. 90, pl. lxi; Roughley, Fish. Aust., 1916, p. 108, pl. xxxiv.

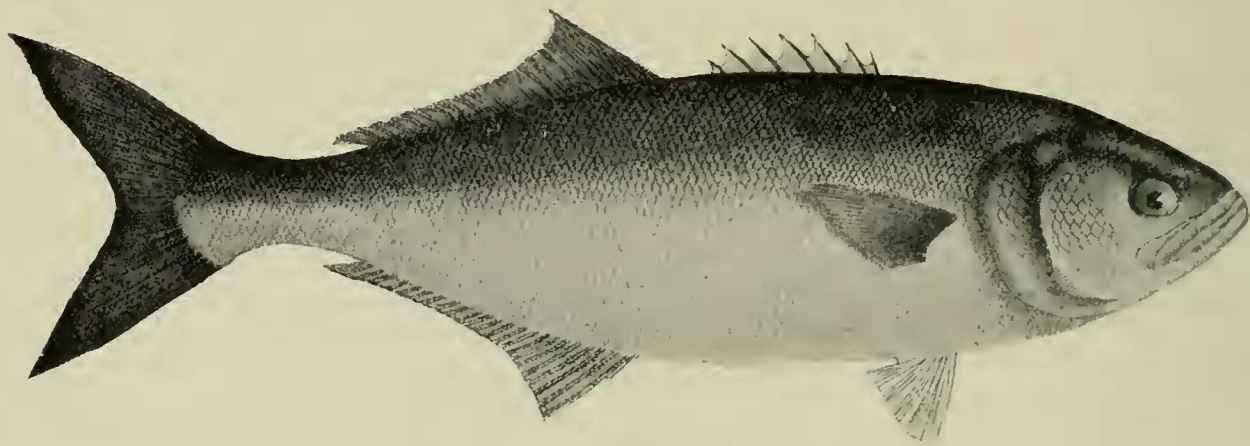


Fig. 159. *Pomatomus saltator*.

Owing to the circumstance that it cuts the fishermen's nets is also known as "Tailor." It is commonly taken in the seine net, but also affords sport to the angler. Is good food, but must be eaten quite fresh.

FAMILY ARRIPIDIDAE.

ARRIPIS Jenyns, 1842 (*georgianus*).

ARRIPIS TRUTTA Forster (Australian Salmon).

Sciaena trutta Forst., in Bl. & Schm., Syst. Ichth., 1801, p. 542.

?*Perca trutta* and *P. marginata* Cuv. & Val., Hist. Nat. Poiss., ii, 1828, p. 53, 54.

Centropristes truttaceus Cuv. & Val., Hist. Nat. Poiss., iii, 1829, p. 50.

Centropristes salar Rich., P.Z.S., 1839, p. 95 and T.Z.S., iii, 1849, p. 78 and Zool. Ereb. & Terr., 1845, p. 29, pl. xx, fig. 4-6.

Centropristes tasmanicus Homb. & Jacq., Voy. Pole Sud, iii, 1853, p. 40, pl. iv, fig. 1.

Arripis salar Günth., Cat. Fish. Brit. Mus., i, 1859, p. 253; Ogil., Edib. Fish. N.S.W., 1893, p. 20, pl. ix.

Arripis truttaceus Günth., *op. cit.* p. 254; McCoy, Prod. Zool. Viet., dec. ii, 1878, pl. xvi, xvii.

Arripis trutta Gill, Mem. Nat. Acad. Sci., vi, 1893, p. 116; Roughley, Fish. Aust., 1916, p. 117, pl. xxxvii.

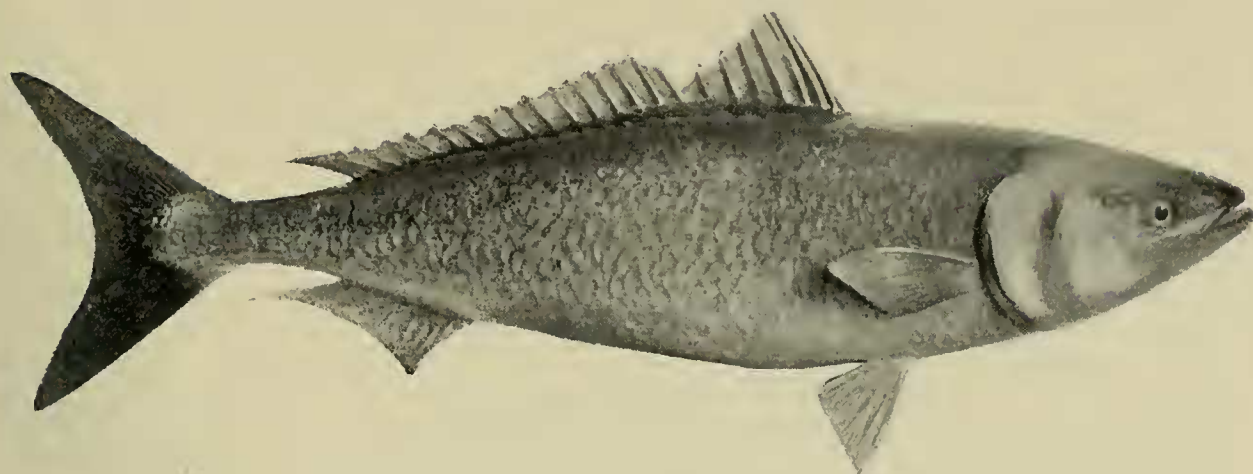


Fig. 160. *Arripis trutta*.

Appears in summer in enormous shoals. Adults are not greatly prized as food, but half-grown examples, known as Salmon Trout, are by no means despised. Gives good sport to anglers.

ARRIPIS GEORGIANUS Cuvier & Valenciennes (Tommy Rough, Wankaldi).

Centropristes georgianus Cuv. & Val., Hist. Nat. Poiss., vii, 1831, p. 451; Rich., Zool. Ereb. & Terr., 1848, p. 117, pl. liv., fig. 3-6.

Arripis georgianus Jenyns, Voy. Beagle, 1842, p. 14; McCoy, Prod. Zool. Viet., dec. xix, 1889, pl. clxxxiv.

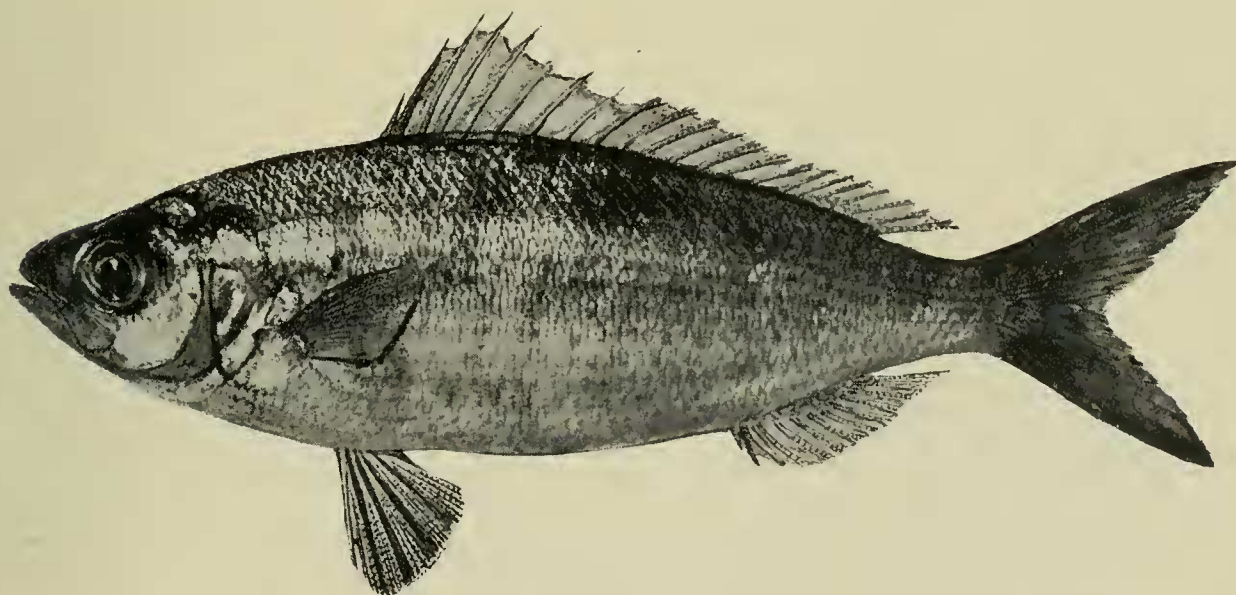
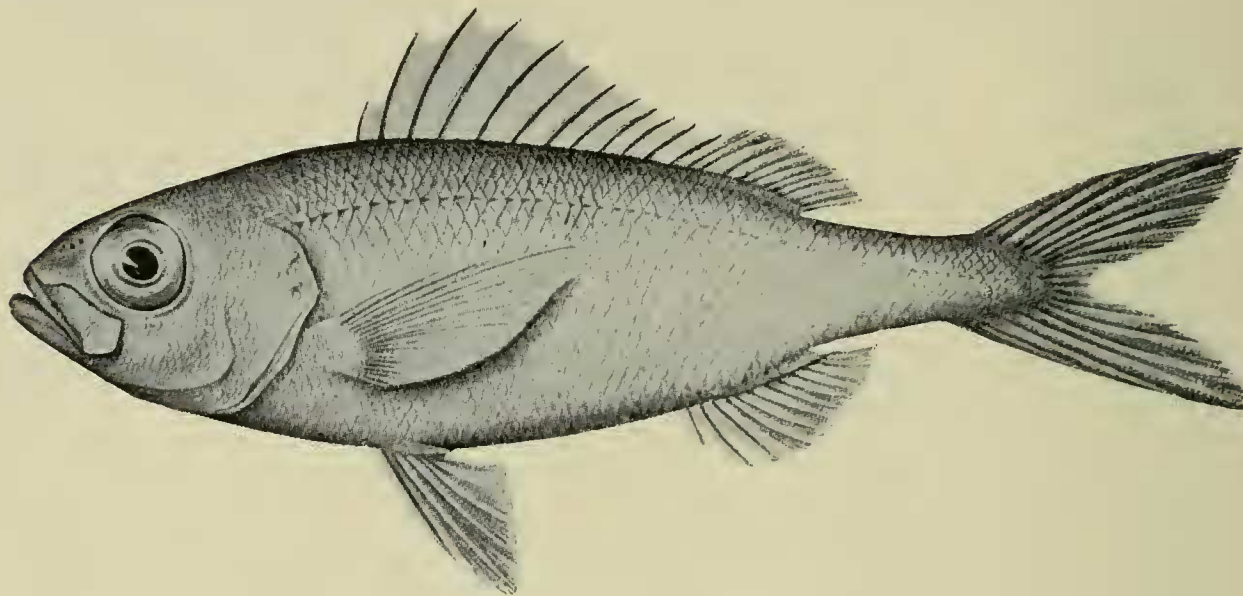


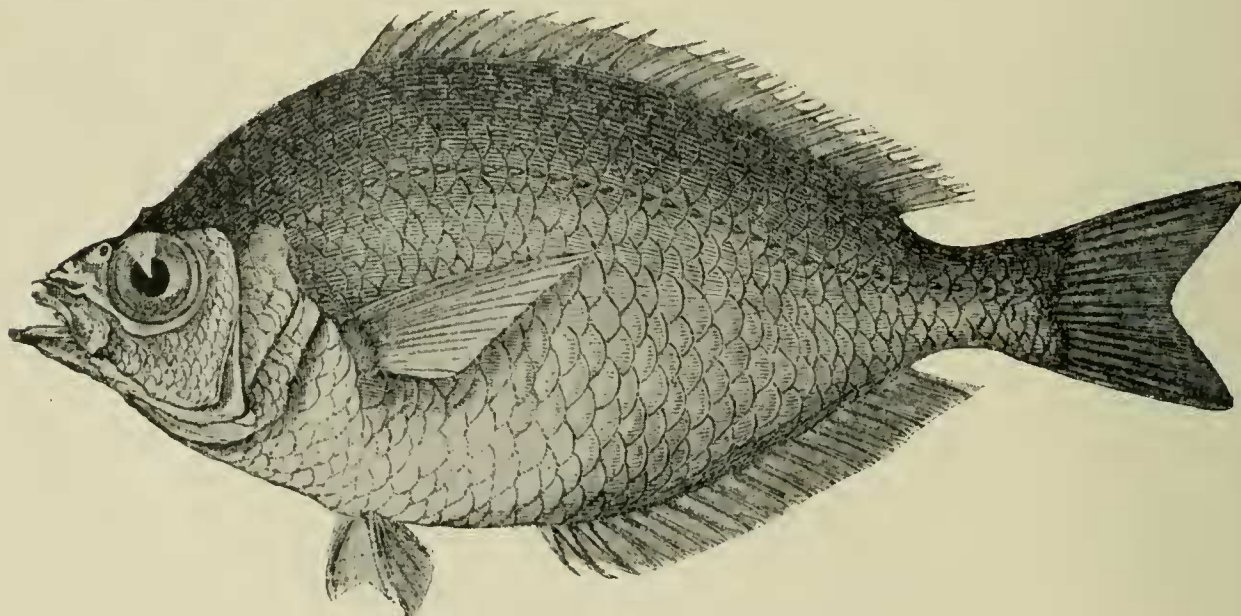
Fig. 161. *Arripis georgianus*.

A small fish, but plentiful and much appreciated as food.

FAMILY ERYTHRICHTHYIDAE.

PLAGIOGENEION Forbes, 1890 (rubiginosus).**PLAGIOGENEION MACROLEPIS** McCulloch (Ruby Fish).*Plagiogeneion macrolepis* McCull., Endeavour Res., ii, 1914, p. 104, pl. xx.Fig. 162. *Plagiogeneion macrolepis*.

FAMILY GERRIDAE.

PAREQUULA Steindachner, 1879 (bicornis).**PAREQUULA MELBOURNENSIS** Castelnau.*Gerres melbournensis* Cast., P.Z.S., Vict., i, 1872, p. 158.*Chthamaloptyx melbournensis* Ogil., P.Z.S., 1887, p. 616, fig.Fig. 163. *Parequula melbournensis*.

FAMILY SCIAENIDAE.

SCIAENA Linnaeus, 1758 (*umbra*).**SCIAENA ANTARCTICA** Castelnau (Butterfish, Mulloway).

Sciaena antarctica Cast., P.Z.S., Vict., i, 1872, p. 100; Ten. Woods, Fish. N.S.W., 1883, p. 53, pl. xvi; Stead, Fish. Aust., 1906, p. 113, fig. 42 and Edib. Fish.

N.S.W., 1908, p. 66, pl. xxxvii; Roughley, Fish. Aust., 1916, p. 112, pl. xxxv.

Corvina axillaris De Vis., P.L.S., N.S.W., ix, 1884, p. 538.

Sciaena neglecta Rams. & Ogil., P.L.S., N.S.W. (2), i, 1886, p. 941.

Sciaena aquila Ogil., Edib. Fish. N.S.W., 1893, p. 72, pl. xxii.

Sciaena hololepidota antarctica Ogil., Mem. Qld. Mus., vi, 1918, p. 70, pl. xxi.

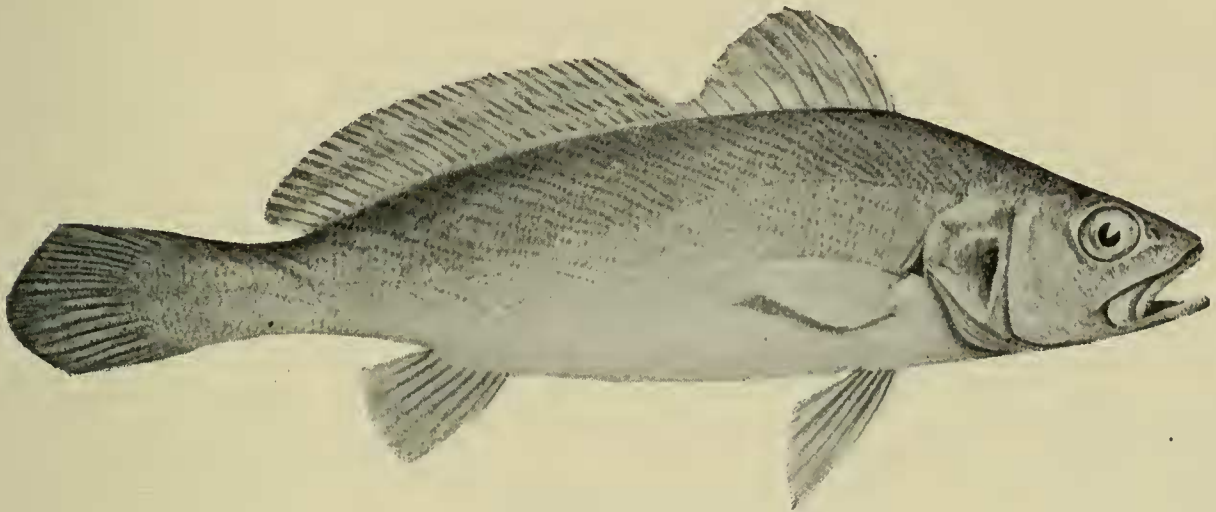


Fig. 164. *Sciaena antarctica*.

One of the most popular food fishes of the State, plentiful, and of good keeping quality.

FAMILY MULLIDAE.

UPENEUS Cuvier, 1829 (*bifasciatus*).**UPENEUS POROSUS** Cuvier & Valenciennes (Red Mullet).

Upeneus porosus Cuv. & Val., Hist. Nat. Poiss., iii, 1829, p. 455.

Upeneichthys porosus Günth., Cat. Fish. Brit. Mus., i, 1859, p. 400; Roughley, Fish. Aust., 1916, p. 139, pl. xlv.

Upeneichthys vlamingii Hect., T.N.Z. Inst., ix, 1877, p. 465, pl. ix, fig. 5.

Hypeneus vlamingii and *H. porosus* Ogil., Cat. Fish. N.S.W., 1886, p. 17.

Mullus porosus Ogil., Edib. Fish. N.S.W., 1893, p. 33.

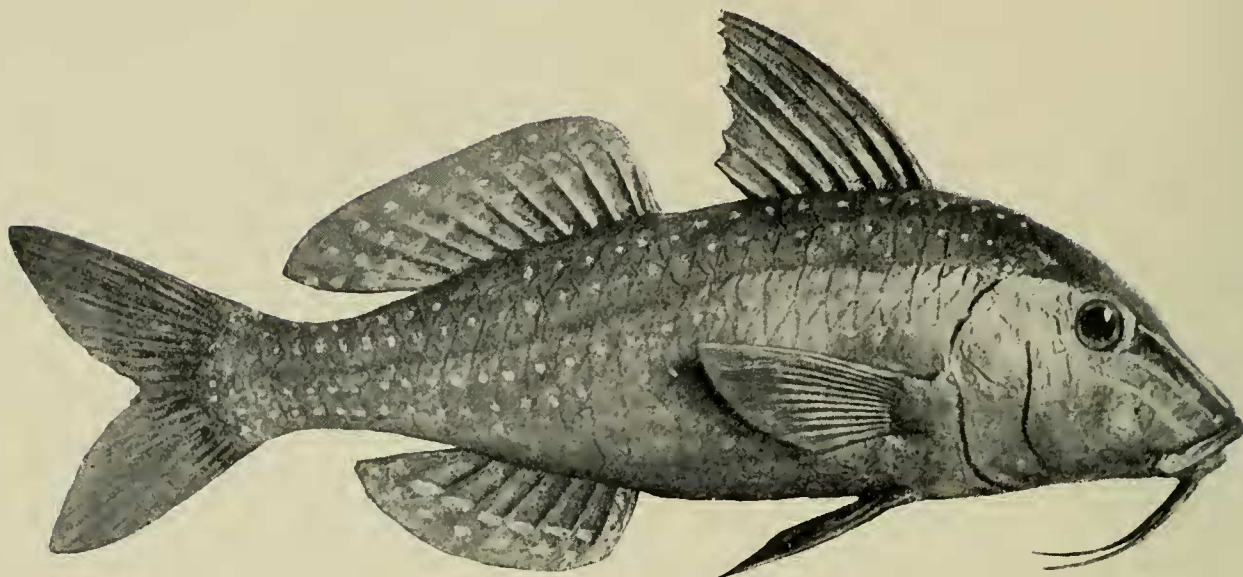


Fig. 165. *Upeneus porosus*.

As much appreciated as was its Mediterranean congener by the Romans of old.

FAMILY SPARIDAE.

PAGROSOMUS Gill, 1893 (*auratus*).

PAGROSOMUS AURATUS Foster (Snapper).

Sciaena aurata Forst., in Bl. & Schn., Syst. Ichth., 1801, p. 266.

Chrysophrys unicolor Quoy & Gaim., Voy. Uran. & Physic., 1824, p. 299.

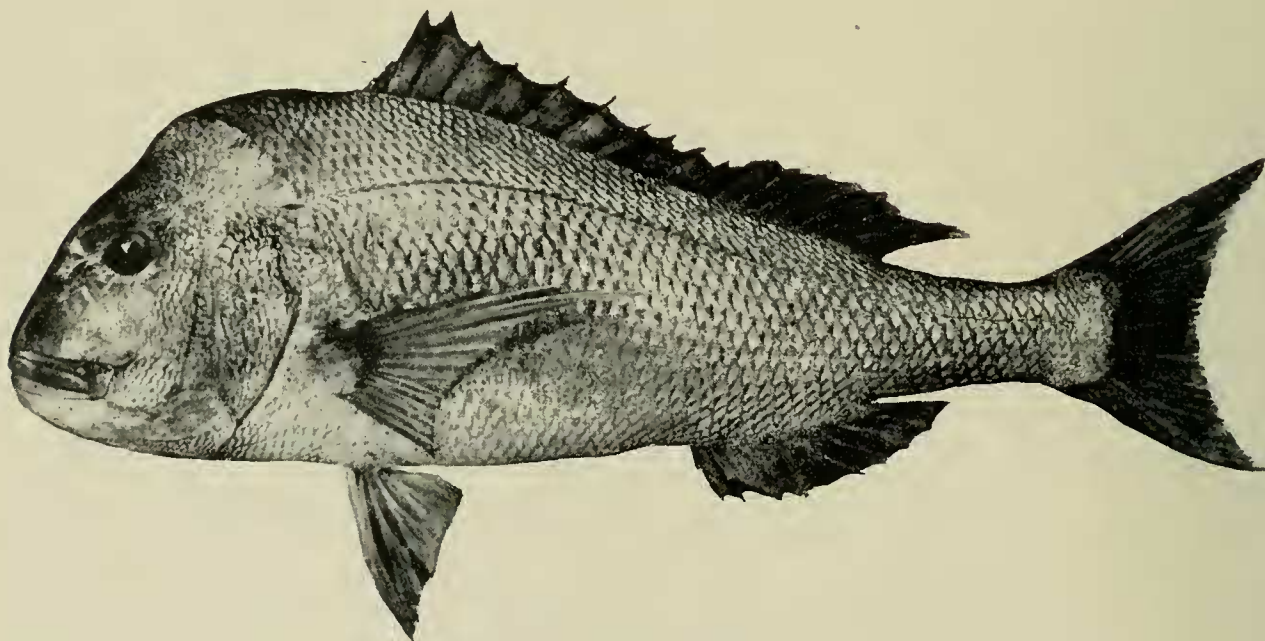


Fig. 166. *Pagrosomus auratus*.

Pagrus unicolor Cuv. & Val., Hist. Nat. Poiss., vi, 1830, p. 162; Ten. Woods, Fish. N.S.W., 1883, p. 39, pl. viii and frontispiece; Ogil., Edib. Fish. N.S.W., 1893, p. 47, pl. xiii.

Pagrus guttulatus and *P. micropterus* Cuv. & Val., Hist. Nat. Poiss., vi, 1830, p. 160, 163.

Pagrus latus Rich., Rep. Brit. Ass., 1842, p. 209.

Chrysophrys gibbiceps Canestrini, Arch. Zool. Anat. (2), i, 1869, p. 154.

Pagrosomus (and *Sparosomus*) *auratus* Gill, Nat. Acad. Sci., vi, 1893, p. 97, 116, 123; Stead, Edib. Fish. N.S.W., 1908, p. 75, pl. xlv; Roughley, Fish. Aust., 1916, p. 130, frontispiece and pl. xlii (young).

The best known Australian food fish, generally caught with hand lines; seldom trawled as in New Zealand.

SPARUS Linnaeus, 1758 (*aurata*).

SPARUS AUSTRALIS Günther (Black Bream).

Chrysophrys australis Günth., Cat. Fish. Brit. Mus., i, 1859, p. 494; McCoy, Prod. Zool. Viet., dec. i, 1878, pl. iv; Stead, Edib. Fish. N.S.W., 1908, p. 77, pl. xlvi.

Chrysophrys sarba Cast., P.L.S., N.S.W., iii, 1879, p. 373 (not Forsk.).

Pagrus australis Ogil., Edib. Fish. N.S.W., 1893, p. 51, pl. xv.

Sparus australis Roughley, Fish. Aust., 1916, p. 134, pl. xliii.

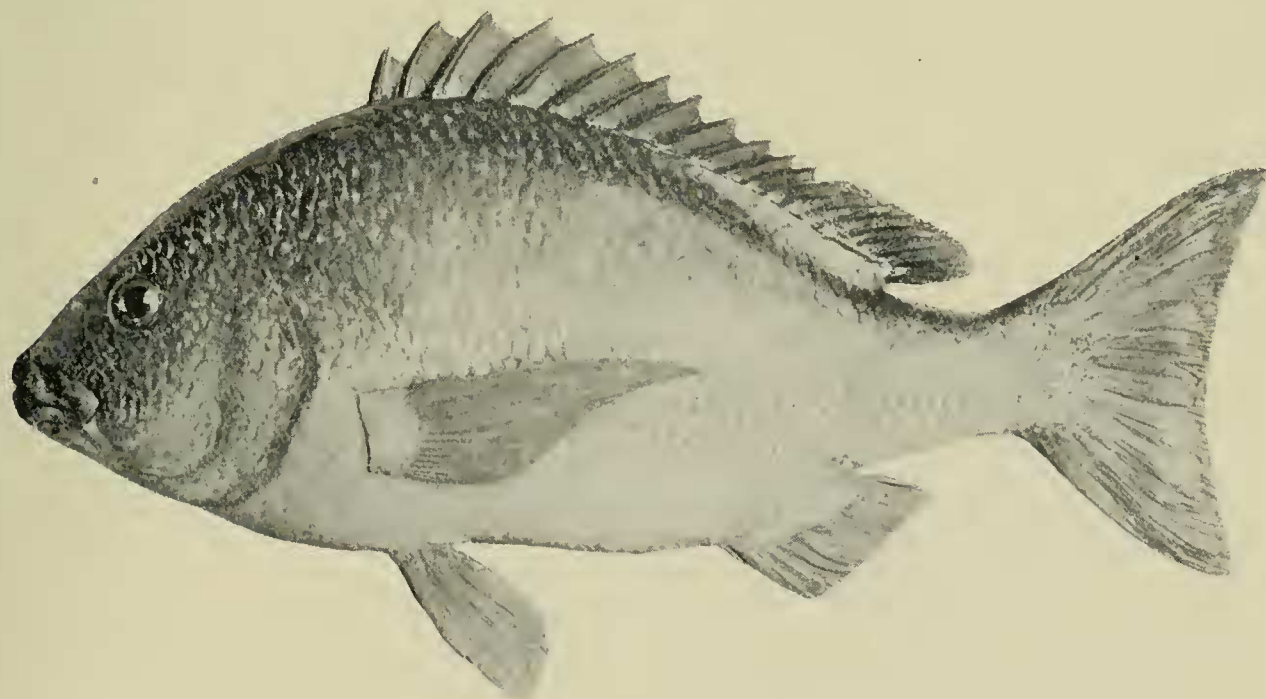


Fig. 167. *Sparus australis*.

A prime favourite with anglers, and said to require a most "delicate finger" for its capture. A delicious table fish.

FAMILY PEMPHERIDAE.

LIOPEMPHERIS Ogilby, 1913 (*multiradiata*). [? **CATALUFA** Snyder, 1911.]

LIOPEMPHERIS MULTIRADIATA Klunzinger (Bull's-eye).

Pempheris multiradiatus Klunz., Sitzb. Akad. Wiss. Wien, lxxx, 1880, p. 381.

Pempheris macrolepis MacL., P.L.S., N.S.W., v, 1881, p. 516; Waite, Mem. Aust. Mus., iv, 1899, p. 73, pl. x.

Pempheris lineatus Ogil., P.L.S., N.S.W., x, 1885, p. 447.

Liopempheris multiradiata Ogil., Mem. Qld. Mus., ii, 1913, p. 66.

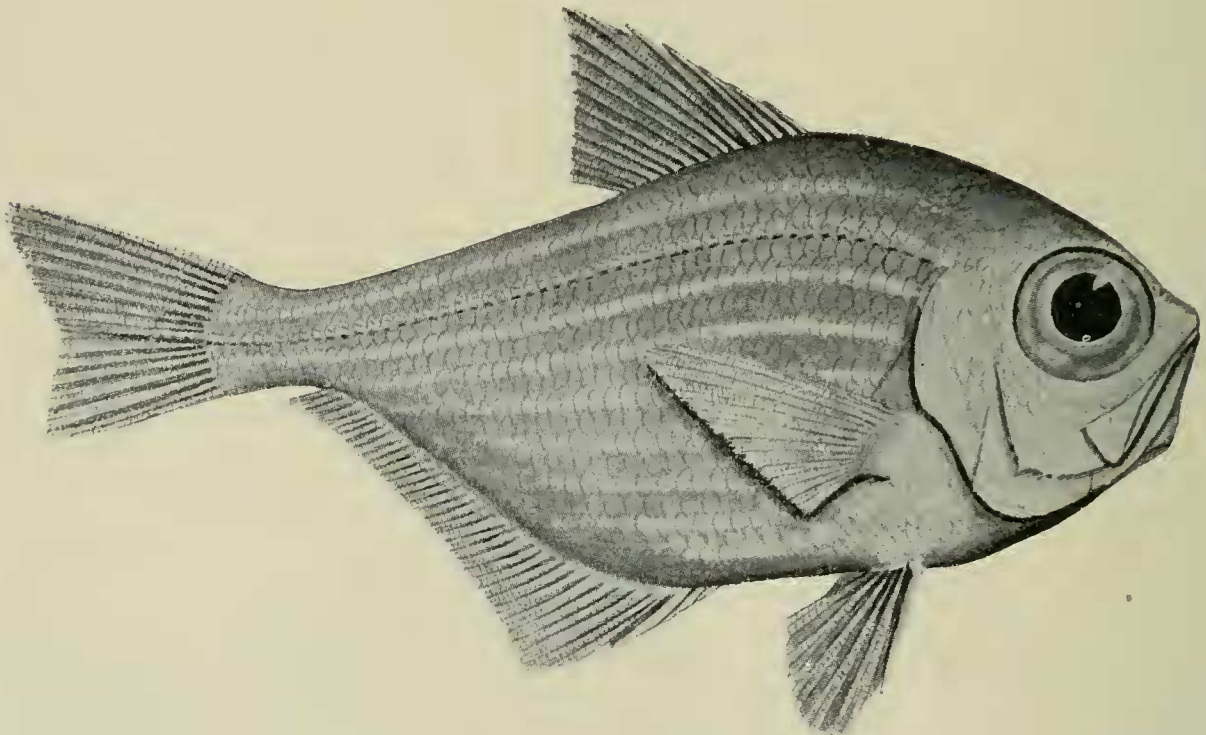


Fig. 168. *Liopempheris multiradiata*.

Members of this Family are not of economic importance.

PEMPHERIS Cuvier, 1829 (*argenteus*).

PEMPHERIS KLUNZINGERI McCulloch.

Pempheris muelleri Klunz., Sitzb. Akad. Wiss. Wien, lxxx, 1880, p. 380, pl. vi (not Poey).

Pempheris klunzingeri McCull., Endeavour Res., i, 1911, p. 47.

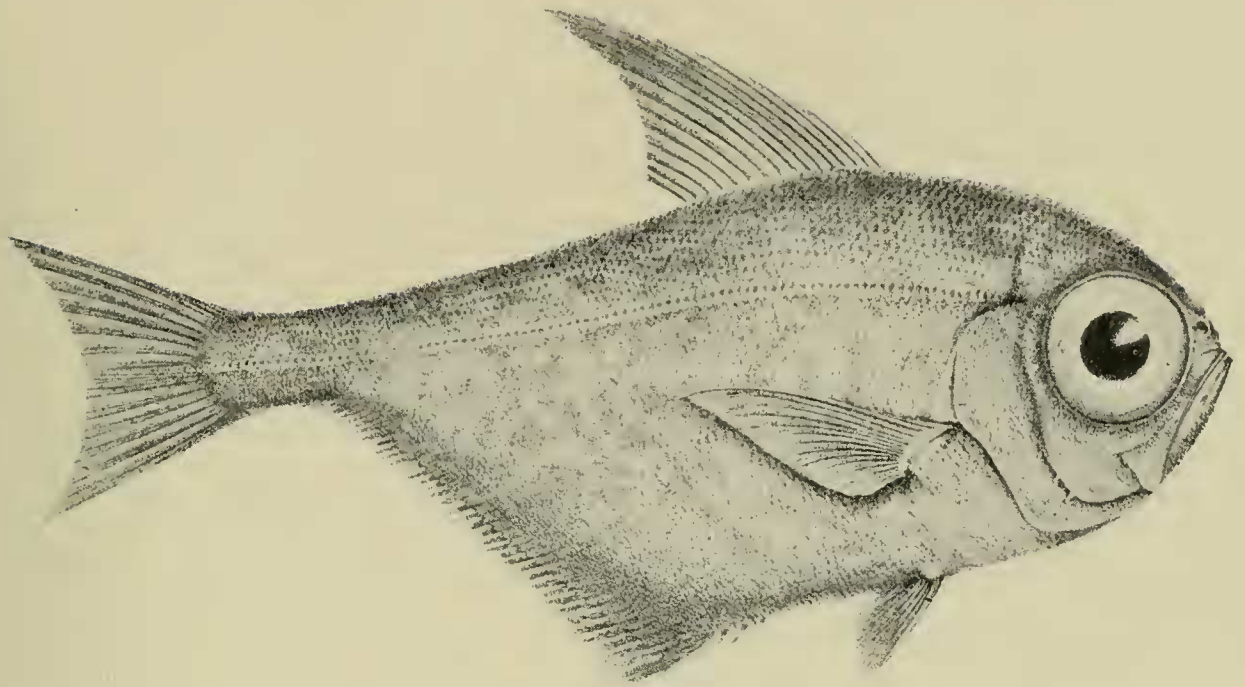


Fig. 169. *Pempheris klunzingeri*.

PARAPRIACANTHUS Steindachner, 1870 (*ransonneti*).

PARAPRIACANTHUS ELONGATUS McCulloch.

Pempheris elongata McCull., Endeavour Res., i, 1911, p. 47, pl. iv, fig. 1.

Parapriacanthus elongatus Ogil., Mem. Qld. Mus., ii, 1913, p. 67.

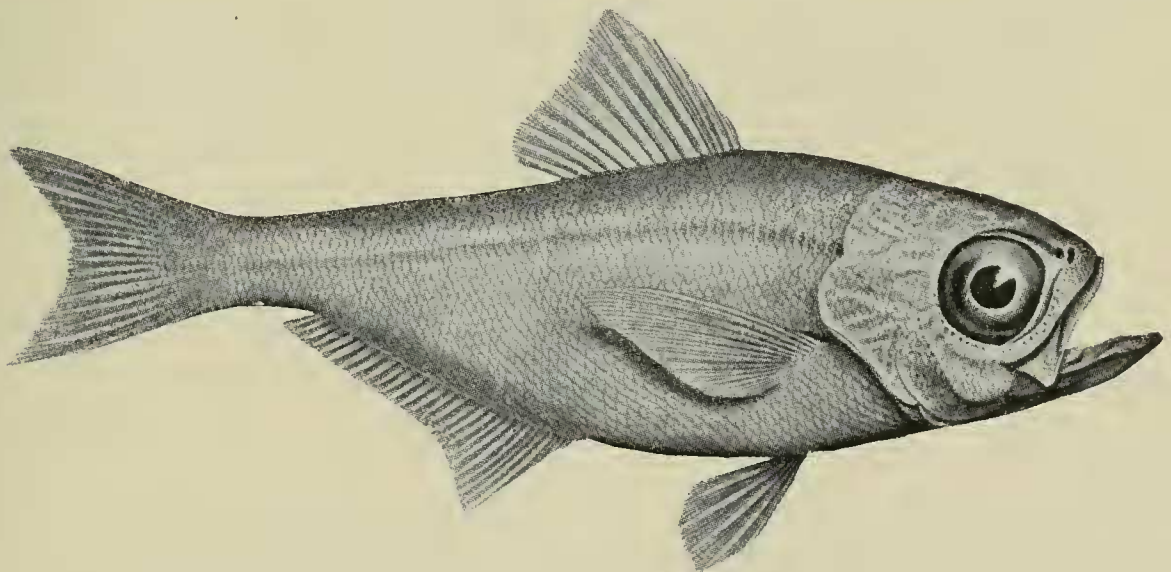


Fig. 170. *Parapriacanthus elongatus*.

FAMILY SCORPIDIDAE.

SCORPIS Cuvier & Valenciennes, 1831 (*georgianus*).

SCORPIS GEORGIANUS Cuvier & Valenciennes (Banded Sweep).

Scorpis georgianus Cuv. & Val., Hist. Nat. Poiss., viii, 1831, p. 503, pl. ccxlv;
Rich., Zool. Ereb. & Terr., 1848, p. 121.

It is possible that this may prove to be the young of *S. aequipinnis*.

SCORPIS AEQUIPINNIS Richardson (Sweep).'

Scorpis aequipinnis Rich., Zool. Ereb. & Terr., 1848, p. 121; Ogil., Edib. Fish.
N.S.W., 1893, p. 38, pl. x; McCull., Rec. Aust. Mus., xi, 1917, p. 177, fig. 2;
Roughley, Fish. Aust., 1916, p. 141, pl. xlv.

Scorpis lineolatus Kner, Reise Novara, 1865, p. 108, pl. v, fig. 3.

Scorpis boops Peters, Sitzb., Akad. Berlin, 1866, p. 519.

Scorpis richardsonii Steind., Sitz. Akad. Wiss. Wien, liii, 1866, p. 437, pl. v,
fig. 1.

Scorpis oblungus Canestrini, Arch. Zool. Anat. (2), i, 1869, p. 153.

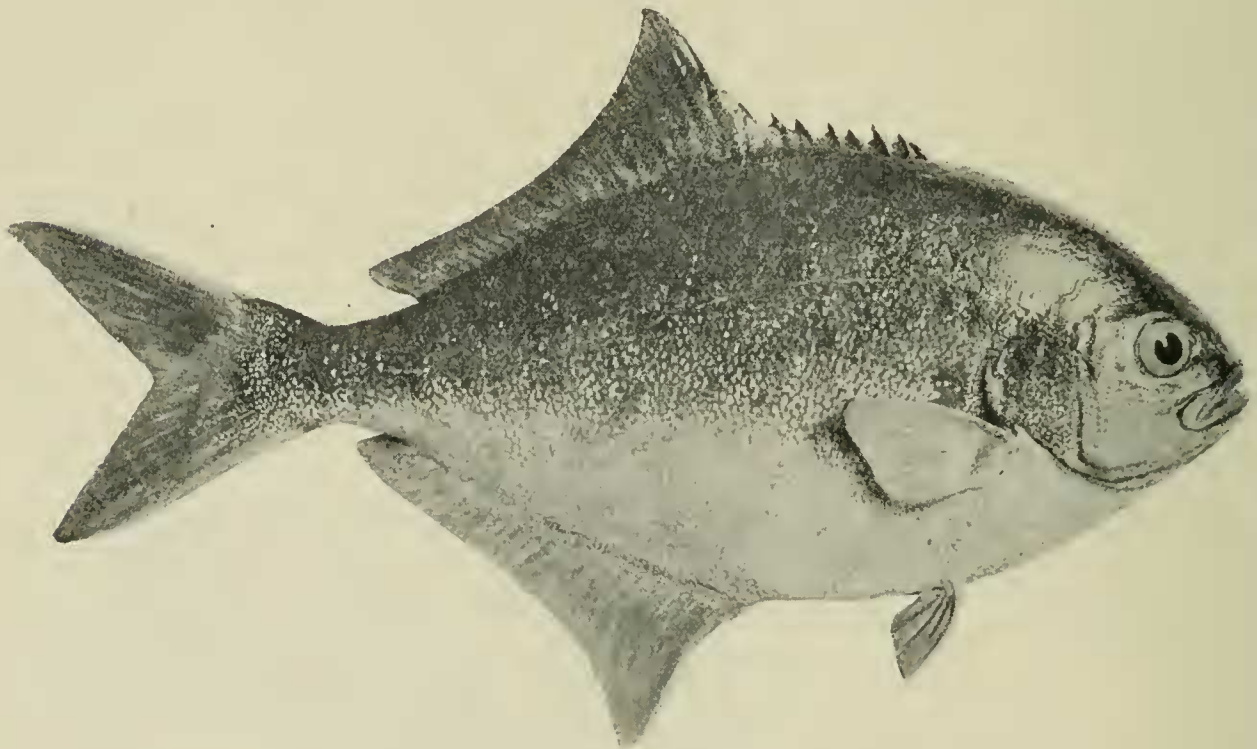
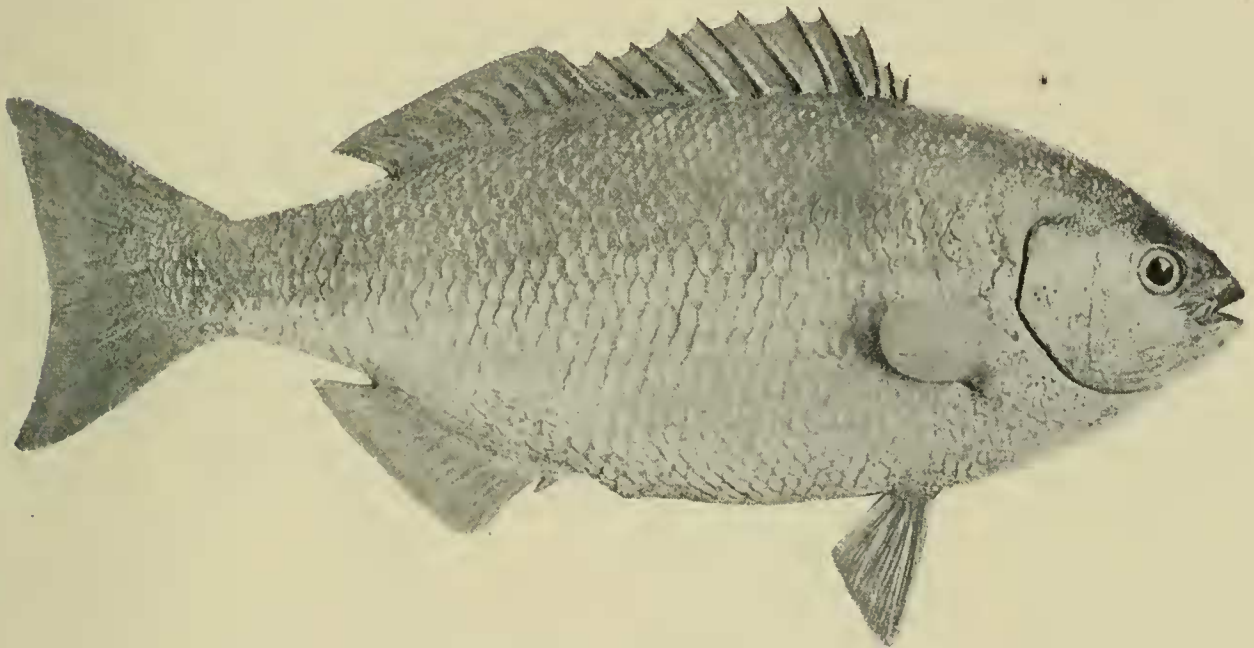


Fig. 172. *Scorpis aequipinnis*.

The Sweep is a favourite food and sporting fish, and always find a ready sale.

FAMILY KYPHOSIDAE.

KYPHOSUS Lacepède, 1802 (*bigibbus*).**KYPHOSUS SYDNEYANUS** Günther (Drummer).*Pachymetopon grande* MacL., P.L.S., N.S.W., v. 1881, p. 406 (not Günth.).*Pimelepterus sydneyanus* Günth., A.M.N.H. (5), xviii, 1886, p. 368; Ogil., Edib. Fish. N.S.W., 1893, p. 40, pl. xvi.*Pimelepterus meridionalis* Ogil., P.Z.S., 1886, p. 539.*Kyphosus sydneyanus* Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 26; Roughley, Fish. Aust., 1916, p. 58, pl. xv; McCull., Rec. Aust. Mus., xiii, 1920, p. 56, pl. xii, fig. 2.Fig. 173. *Kyphosus sydneyanus*.

Though attaining a length of 30 inches, this fish is not regarded with favour; it does not take an animal bait.

FAMILY GIRELLIDAE.

GIRELLA Gray, 1833 (*punctata*).**GIRELLA TRICUSPIDATA** Quoy & Gaimard (Blackfish).

Boops tricuspidatus Quoy & Gaim., Voy. Uranie & Physic., 1824, p. 296.

Oblata tricuspidata Cuv. & Val., Hist. Nat. Poiss., vi, 1830, p. 372.

Crenidens triglyphus Rich., Zool. Ereb. & Terr., 1845, p. 36, pl. xxv., fig. 2.

Crenidens simplex Rich., *op. cit.*, 1846, p. 120.

Girella tricuspidata Günth., Cat. Fish. Brit. Mus., i, 1859, p. 428; Ogil., Edib. Fish. N.S.W., 1893, p. 42, pl. xii; Stead, Edib. Fish. N.S.W., 1908, p. 49, pl. xix; Roughley, Fish. Aust., 1916, p. 52, pl. xii; McCull, Rec. Aust. Mus., xiii, 1920, p. 60, pl. xiv, fig. 1 (syn.).

Girella simplex Günth., *op. cit.* p. 429; McCoy, Prod. Zool. Viet., dec. viii, 1883, pl. lxxiii; Ogil., Edib. Fish. N.S.W., 1893, p. 44.

Melanichthys tricuspidata and *M. simplex* Cast., P.Z.S., Viet., i, 1872, p. 67, 68.

Melanichthys blackii Cast., *op. cit.*, ii, 1873, p. 41.

Girella percoides Hect., Trans. N.Z. Inst., vii, 1875, p. 243, pl. x, fig. 6d.

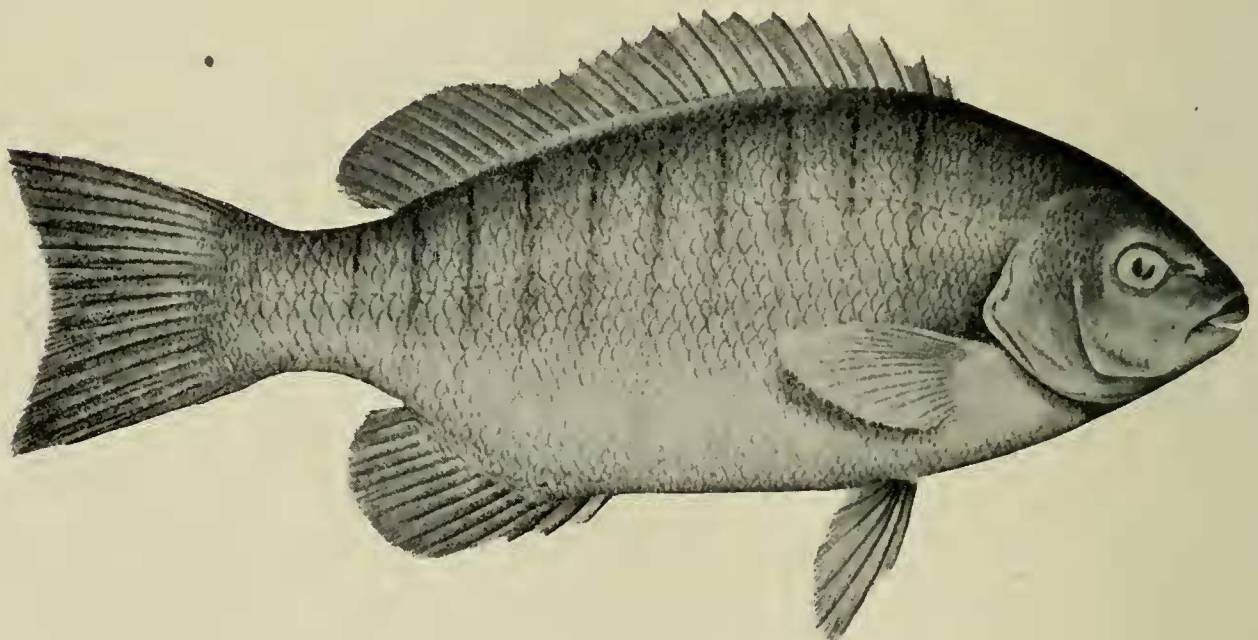


Fig. 174. *Girella tricuspidata*.

Our two species of this Family, being vegetable feeders, are of indifferent flavour and poor keeping quality. They may be caught with seaweed as a bait.

TEPHRAEOPS Günther, 1859 (tephraeops).

TEPHRAEOPS ZEBRA Richardson (Zebra Fish).

Crenidens zebra Rich., Zool. Ereb. & Terr., 1846, p. 70.

Tephracops zebra Günth., Cat. Fish. Brit. Mus., i, 1859, p. 432.

Girella zebra Steind., Sitzb. Akad. Wiss. Wien, liii, 1866, p. 430, pl. vi, fig. 2.

Girellichthys zebra Klunz., Arch. f. Naturg., xxxviii, 1872, p. 22.

Neotephracops zebra Cast., P.R.S., Vict., i, 1872, p. 69.

Melambasis zebra Cast., *op. cit.*, ii, 1873, p. 42.

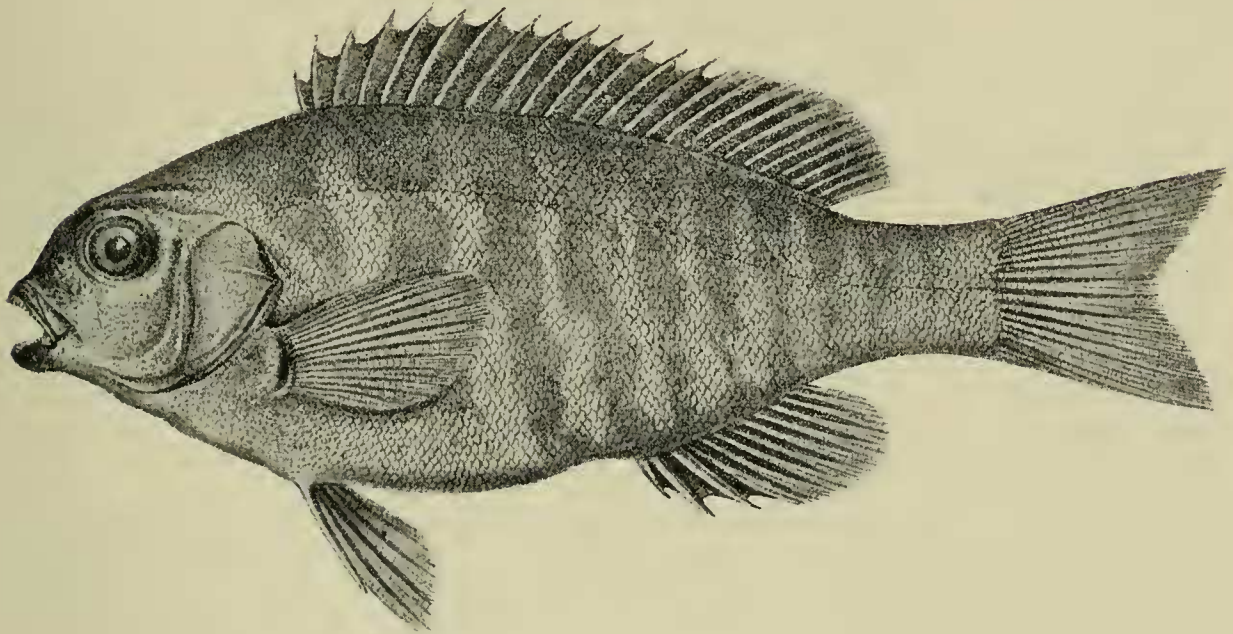


Fig. 175. *Tephracops zebra*.

FAMILY CHAETODONTIDAE.

VINCULUM McCulloch, 1914 (sexfasciatum).

VINCULUM SEXFASCIATUM Richardson (Six-banded Coral-fish).

Chaetodon sexfasciatus Rich., A.M.N.H., x, 1842, p. 26.

Chaetodon ocellipinnis Mael., P.L.S., N.S.W., iii, 1878, p. 33, pl. iii, fig. 1 (young).

Vinculum sexfasciatum McCull., Endeavour Res., ii, 1914, p. 110, pl. xxii.

Vinculum ocellipinnis McCull., *op. cit.*, iv, 1916, p. 193.

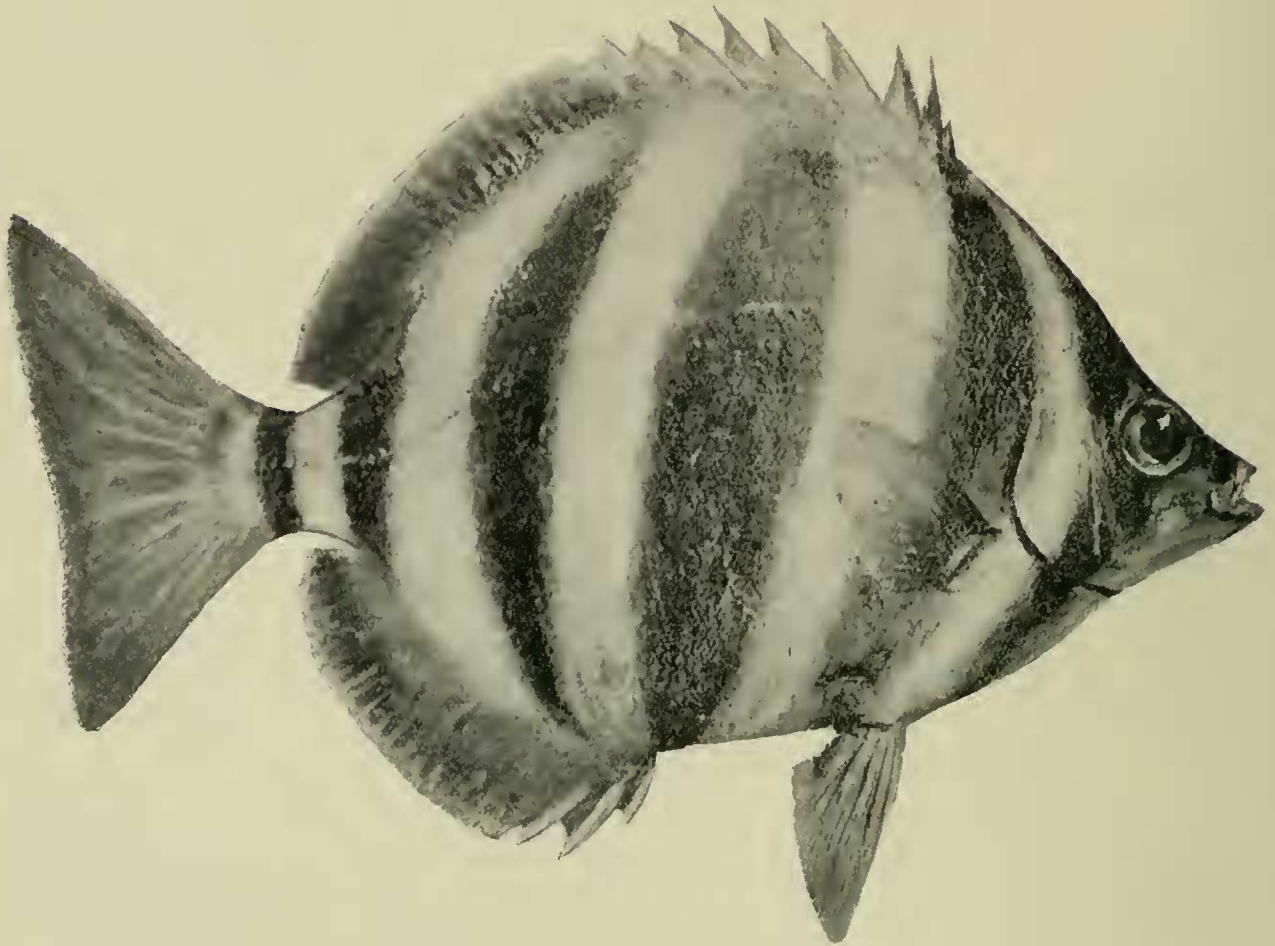


Fig. 176. *Vinculum scrfasciatum*.

A dainty well-fleshed fish, said to be most readily caught at night, whence one of its cognomens, The Moonlighter.

CHELMONOPS Bleeker, 1876 (*truncatus*).

CHELMONOPS TRUNCATUS Kner.

Chactodon truncatus Kner, Sitzb. Akad. Wiss. Wien, xxxiv, 1859, p. 442, pl. ii.

Chelmo trochilus Günth., A.M.N.H. (4), xiv, 1874, p. 368.

Chelmonops truncatus Bleek., Arch. Neerl. Sei. Nat., xi, 1876, p. 304.

FAMILY ENOPLSIDAE.

ENOPLONUS Lacepède, 1802 (*armatus*).

ENOPLONUS ARMATUS Shaw (Old Wife).

Chaetodon armatus Shaw, in White's Voy. N.S.W., 1790, p. 254, pl. xxxix, fig. 1.

Enoplosus white Lacep., Hist. Nat. Poiss., iv, 1803, p. 541.

Enoplosus armatus Cuv. & Val., Hist. Nat. Poiss., ii, 1828, p. 133, pl. xx; Ten. Woods, Fish. N.S.W., 1883, p. 32, pl. ii; Ogil., Edib. Fish. N.S.W., 1893, p. 6; Stead, Edib. Fish. N.S.W., 1908, p. 62, pl. xxxii; Roughley, Fish. Aust., 1916, p. 85, pl. xxvi.

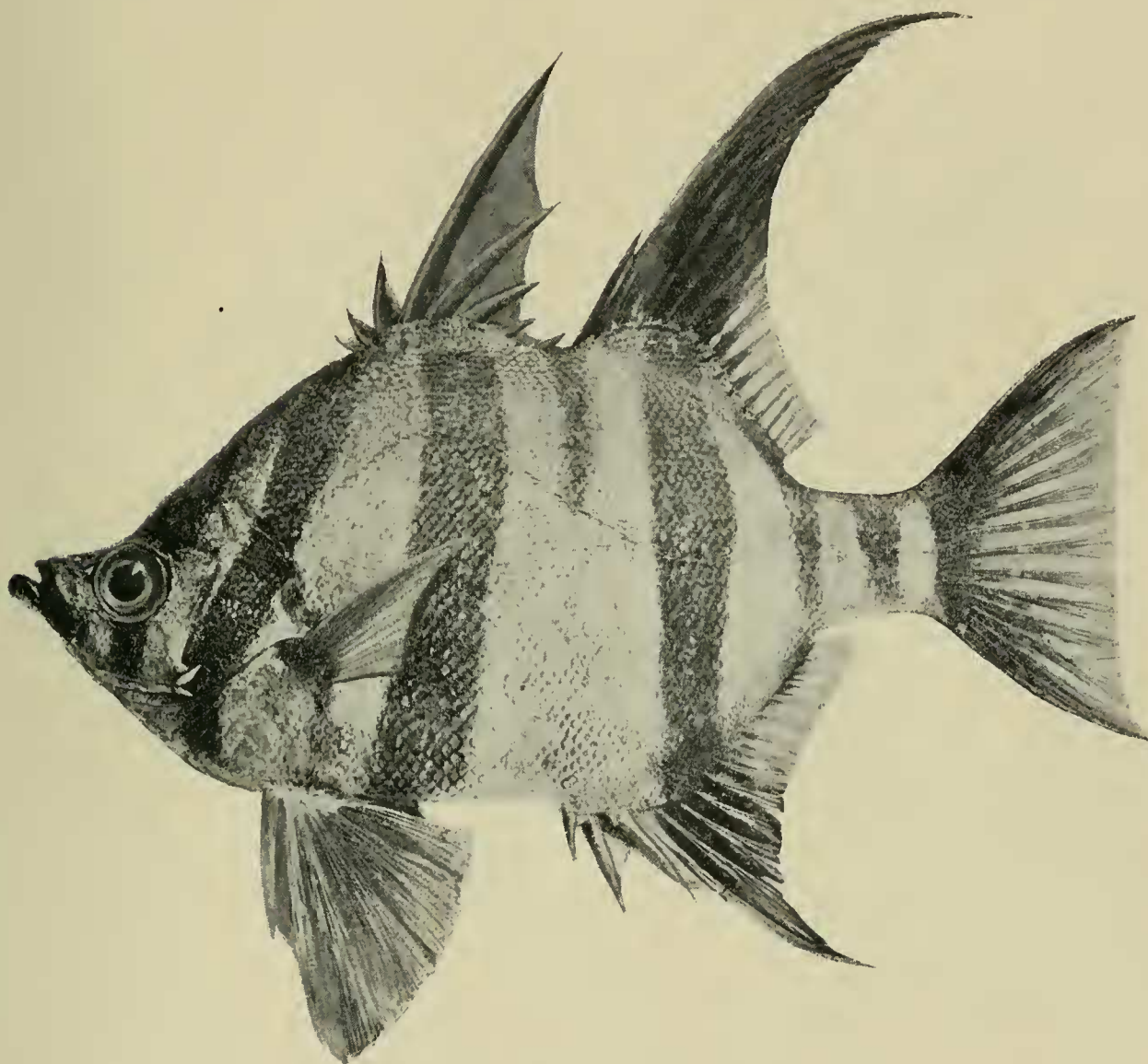


Fig. 178. *Enoplosus armatus*.

A good little fish, but owing to its frequenting rocky localities cannot be taken with a net.

FAMILY HISTIOPTERIDAE.

PENTACEROPSIS Steindachner, 1883 (*recurvirostris*).

PENTACEROPSIS RECURVIROSTRIS Richardson (Striped Boar-fish).

- Histiopterus recurvirostris* Rich., Zool. Ereb. & Terr., 1845, p. 34, pl. xxii, fig. 5-6;
 Canestrini, Arch. Zool. Anat. (2), i, 1869, p. 152, pl. ii.
Pentacerospis recurvirostris Steind. & Doder., Denkschr. Akad. Wiss. Wien, xlviii,
 1883, p. 13 (footnote), pl. vi.
Prosoplismus recurvirostris Waite, Rec. Aust. Mus., v, 1903, p. 58, pl. vi.

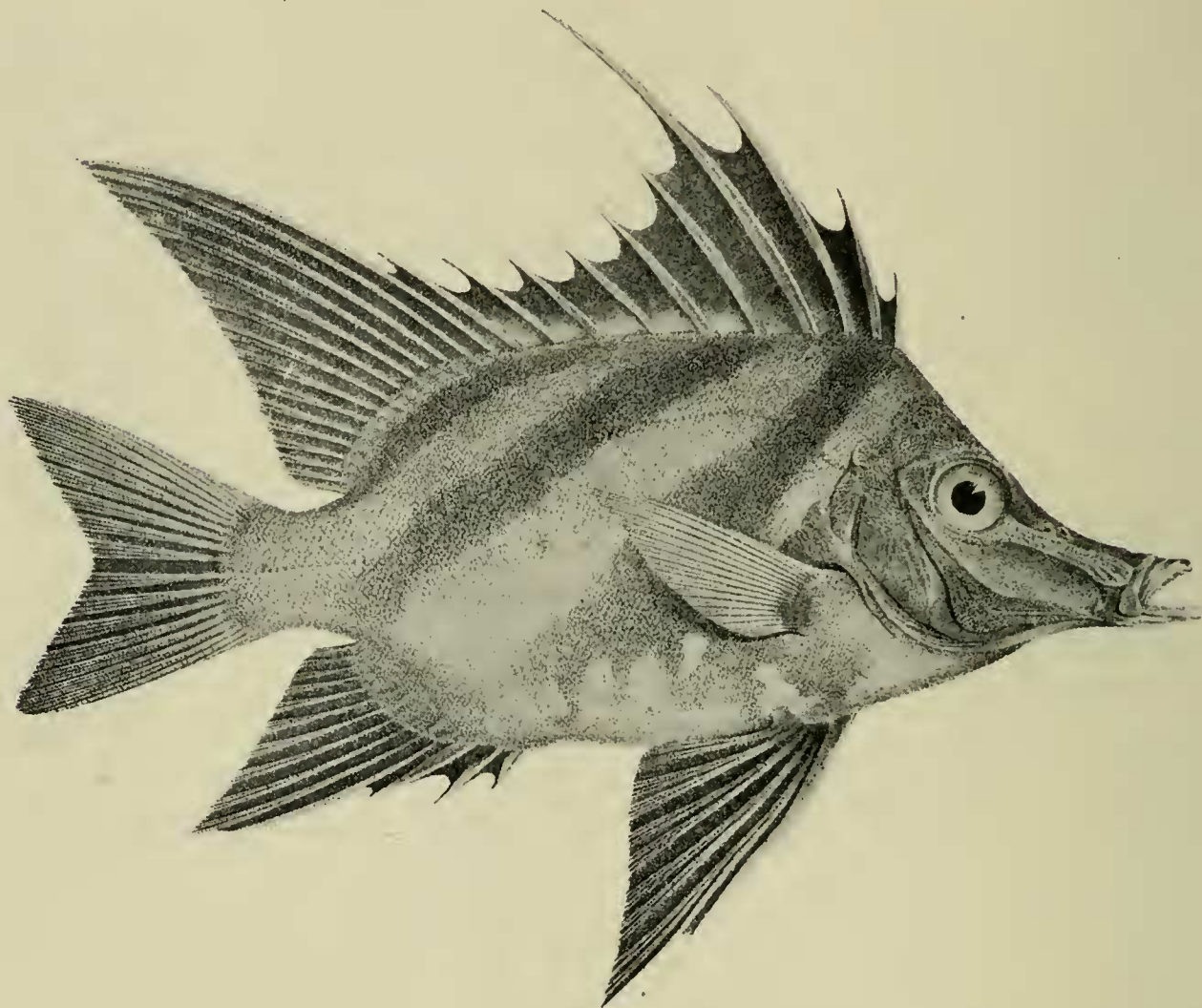


Fig. 179. *Pentacerospis recurvirostris*.

The Boar-fishes are excellent food, but owing to the non-employment of the trawl are seldom seen in our markets.

ZANCLISTIUS Jordan, 1907 (*elevatus*).

ZANCLISTIUS ELEVATUS Ramsay & Ogilby (Short Boar-fish).

Histioporus elevatus Rams. & Ogil., P.L.S., N.S.W. (2), iii, 1888, p. 1311;
 Waite, Mem. Aust. Mus., iv, 1899, p. 114, pl. xxvi; Stead, Edib. Fish.
 N.S.W., 1908, p. 75, pl. xlv.

Zanclistius elevatus Jord., Proc. U.S. Nat. Mus., xxxii, 1907, p. 236; McCull.,
 Endeavour Res., i, 1911, p. 67, fig. 14-18.

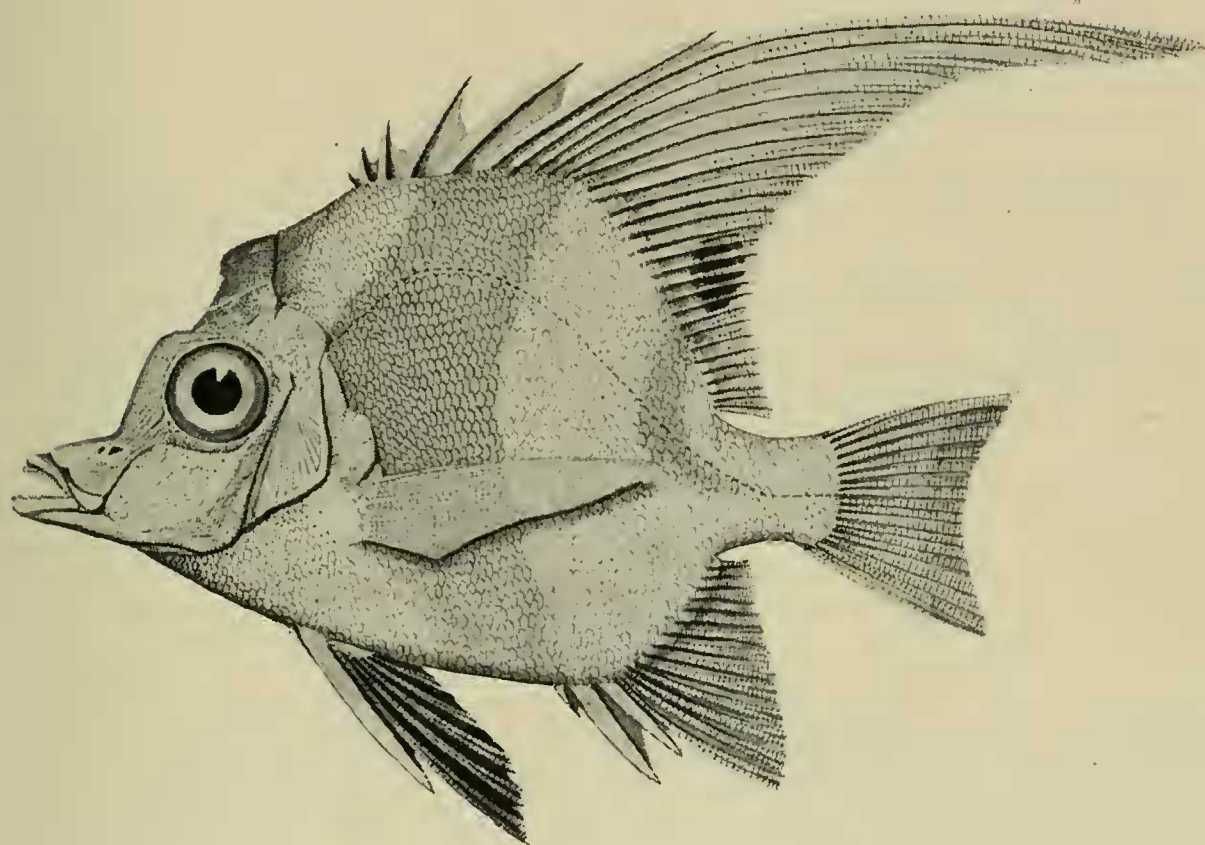


Fig. 180. *Zanclistius elevatus*.

QUINQUARIUS Jordan, 1907 (*japonicus*).

QUINQUARIUS HENDECACANTHUS McCulloch.

Quinquarius hendecacanthus McCull., Endeavour Res., iii, 1915, p. 144, pl. xxvi,
 fig. 1-3.

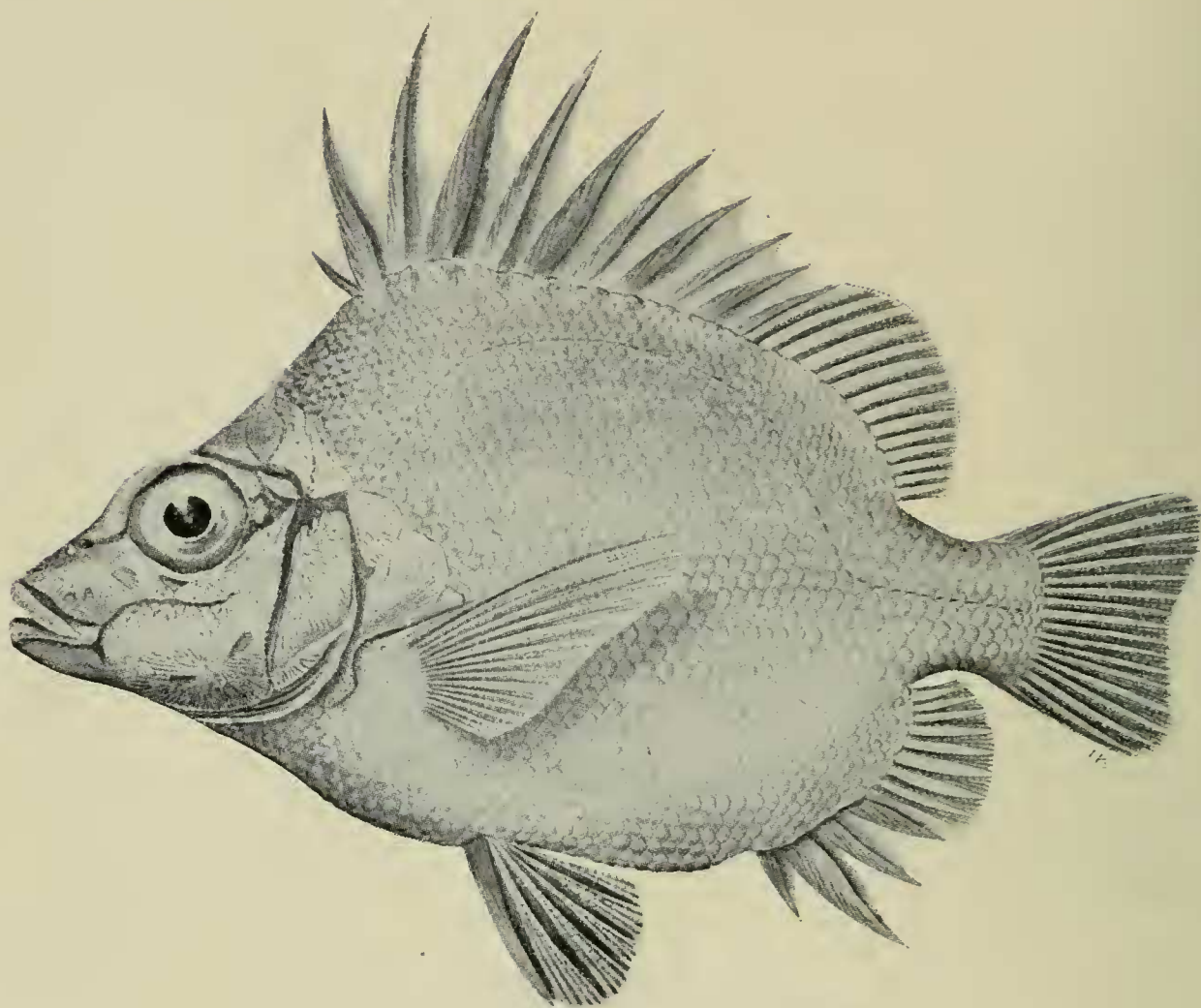


Fig. 181. *Quinquarius hendecacanthus*.

PARISTIOPTERUS Bleeker, 1876 (*labiosus*).

PARISTIOPTERUS LABIOSUS Günther (Boar-fish).

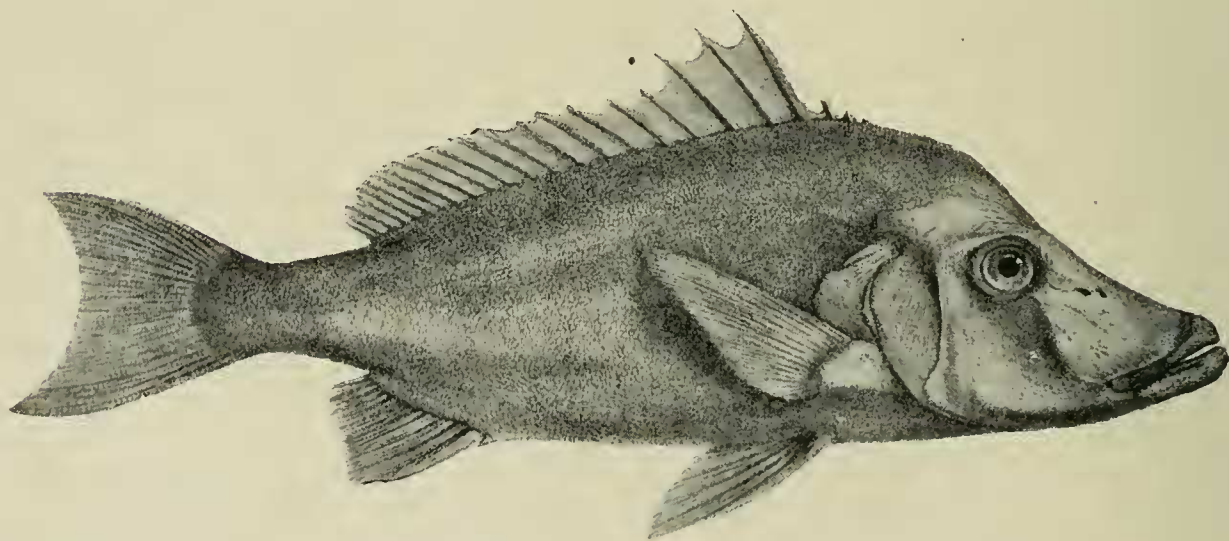


Fig. 182. *Paristiopterus labiosus*.

Histiopaterus labiosus Günth., P.Z.S., 1871, p. 658, pl. lix; Ogil., Edib. Fish. N.S.W., 1893, p. 29, pl. vii.

Richardsonia insignis Cast., P.Z.S., Viet., i, 1872, p. 112.

Paristiopterus labiosus Bleek., Arch. Neerl. Sci. Nat., xi, 1876, p. 268.

Histiopaterus farnelli Waite, Thetis Prelim. Rep., 1898, p. 33, pl. iv and Mem. Aust. Mus., iv, 1899, p. 116, pl. xxvii.

Maccullochia labiosa Waite, Proc. N.Z. Inst., i, 1910, p. 25; Roughley, Fish. Aust., 1916, p. 127, pl. xli.

FAMILY OPLEGNATHIDAE.

OPLEGNATHUS Richardson, 1840 (*conwaii*).

OPLEGNATHUS WOODWARDI Waite (Knife-jaw).

Hoplegnathus woodwardi Waite, Rec. Aust. Mus., iii, 1900, p. 212, pl. xxxvii.

Oplegnathus woodwardi Waite & McCull., T.R.S., S.A., xxxix, 1915, p. 464; McCull., Endeavour Res., iv, 1916, p. 187, pl. liv (young).

Hoplegnathus australis Regan, Ann. Durban Mus., i, 1916, p. 169.

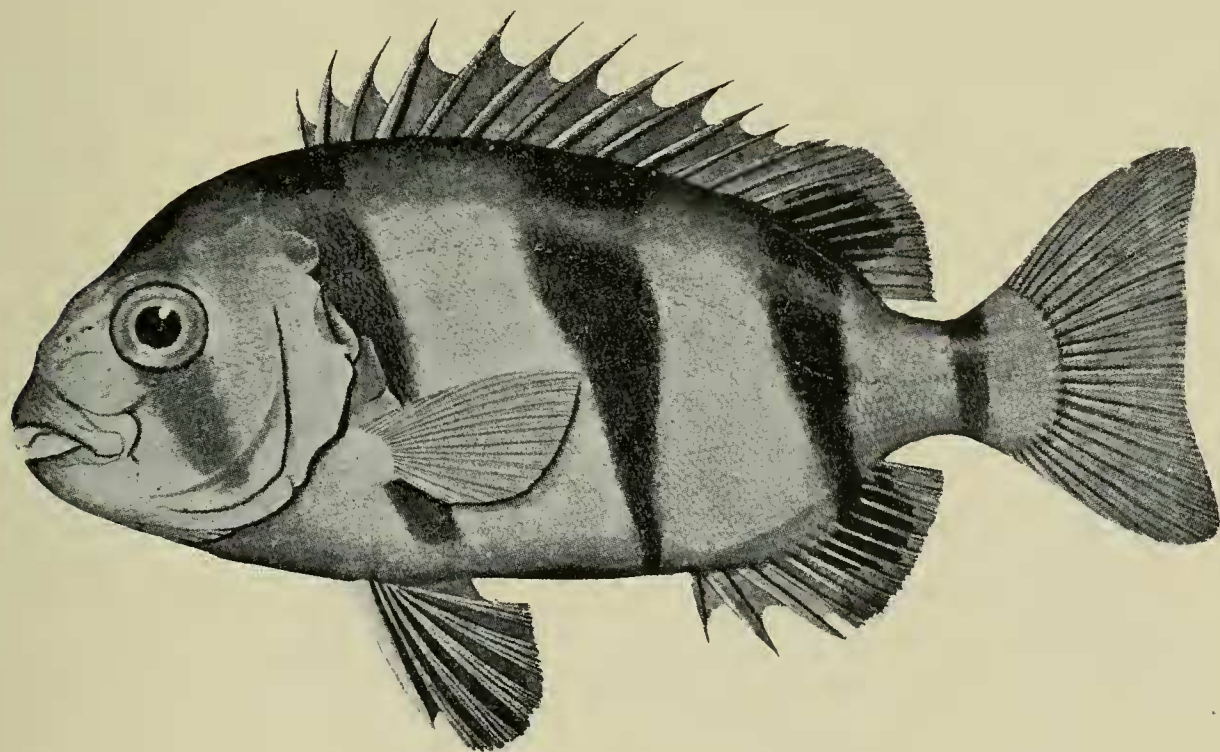
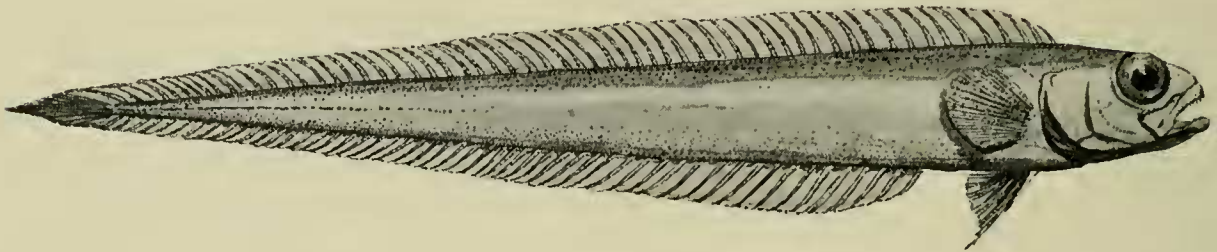


Fig. 183. *Oplegnathus woodwardi*.

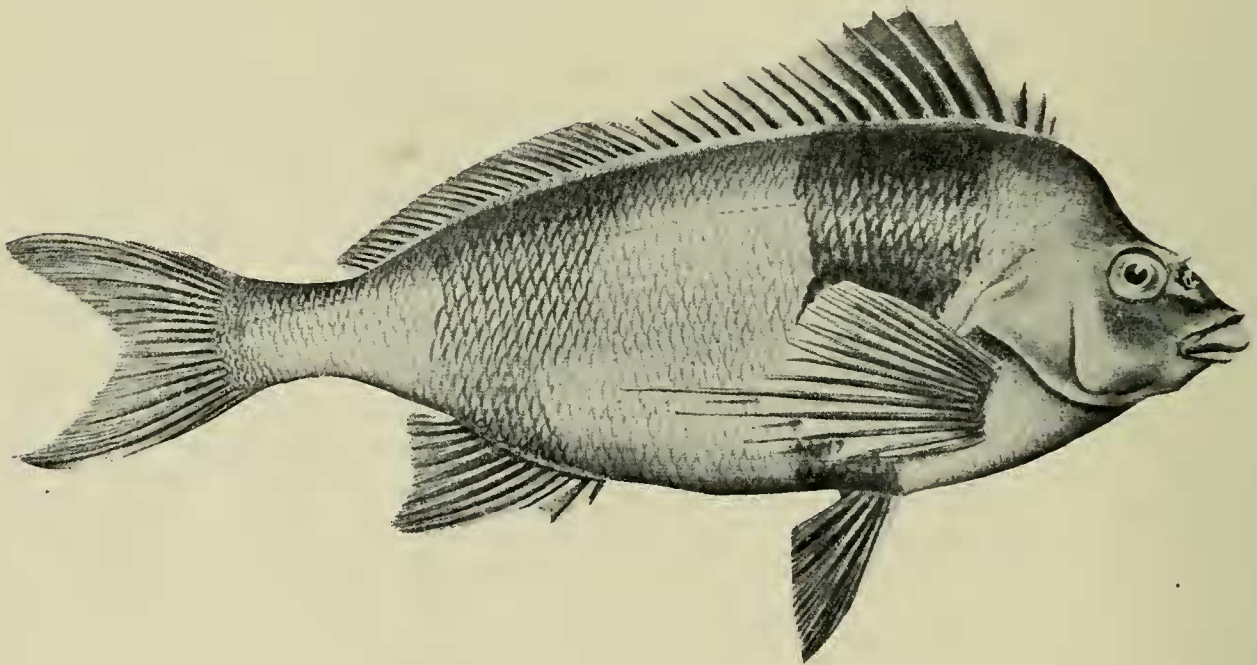
Easily recognized from the fact that its teeth are fused into a pair of plates, whence the term Knife-jaw.

FAMILY CEPOLIDAE.

CEPOLA Linnaeus, 1764 (*rubescens*).**CEPOLA AUSTRALIS** Ogilby (Band Fish).*Cepola australis* Ogil., P.L.S., N.S.W., xxiv, 1889, p. 185; McCull., Endeavour Res., ii, 1914, p. 109, pl. xxxiv, fig. 1.Fig. 184. *Cepola australis*.

DIVISION CIRRHITIFORMES.

FAMILY CHEILODACTYLIDAE.

GONIISTIUS Gill, 1862 (*zonatus*).**GONIISTIUS VIZONARIUS** Kent (Magpie Perch).*Cheilodactylus gibbosus* Cast., P.Z.S., Viet., i, 1872, p. 75 (not Rich.).*Chilodactylus vizonarius* Kent, P.R.S., Tasm., 1887, p. xxx, 48.Fig. 185. *Goniistius vizonarius*.

Chilodactylus bizonarius Kent, Nat. in Aust., 1897, p. 165, 166, pl. xxviii, fig. 13.
Goniistius rizonarius McCull., Endeavour Res., i, 1911, p. 64, pl. xi.

The members of this Family may usually be recognized by the fact that the lower rays of the pectoral fin are undivided, one of which is more or less elongated.

DACTYLOPAGRUS Gill, 1862 (carponemus).

DACTYLOPAGRUS CARPONEMUS Cuvier & Valenciennes (Sea-carp).

Cichla macroptera Bl. & Schn., Syst. Ichth., 1801, p. 342 (not Forst.).
Cheilodactylus carponemus Cuv. & Val., Hist. Nat. Poiss., v, 1830, p. 362, pl. cxxviii; McCoy, Prod. Zool. Viet., dec. xviii, 1889, pl. clxxiii, clxxiv.

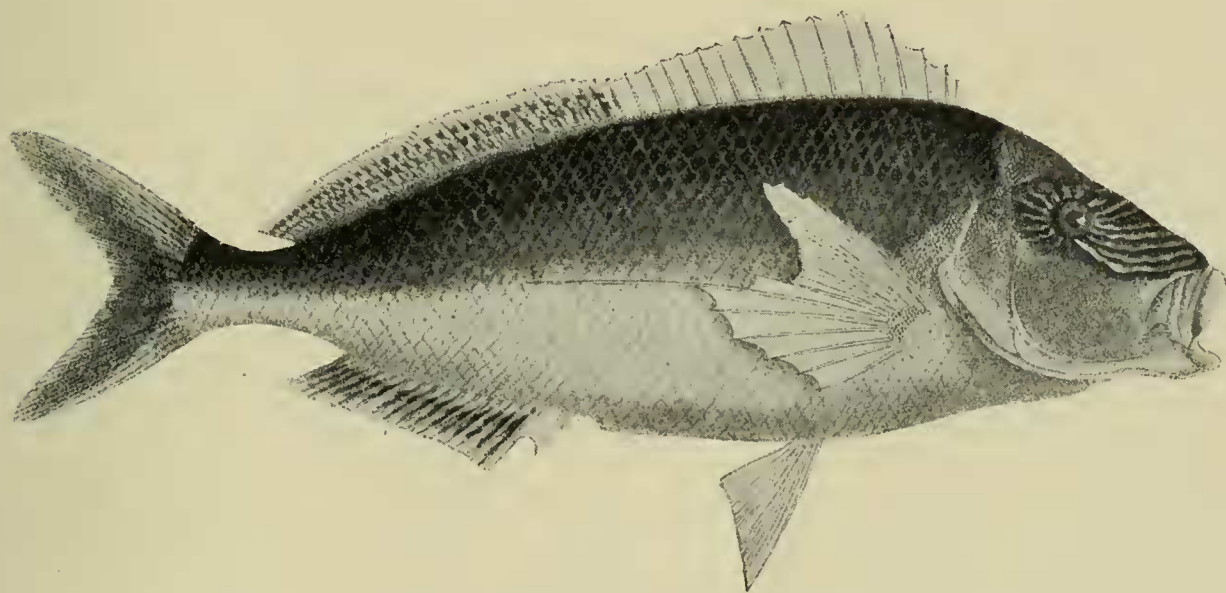


Fig. 186. *Dactylopagrus carponemus*.

It may be noted that references to *D. carponemus* from Eastern Australia are applicable to *D. morwong* Rams. & Ogil.

DACTYLOPAGRUS MACROPTERUS Forster (Jackass Fish).

Sciaena macroptera Forst., in Bl. & Schn., Syst. Ichth., 1801, p. 342.
Cheilodactylus macropterus Rich., P.Z.S., 1850, p. 62; Ogil., Edib. Fish. N.S.W., 1893, p. 57; Ribeiro, Arch. Mus. Nac. Rio Jan., xvii, 1915, Chilod. p. 2, pl. *Dactylopagrus macropterus* Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 32; McCull., Endeavour Res., i, 1911, p. 66, pl. xii.

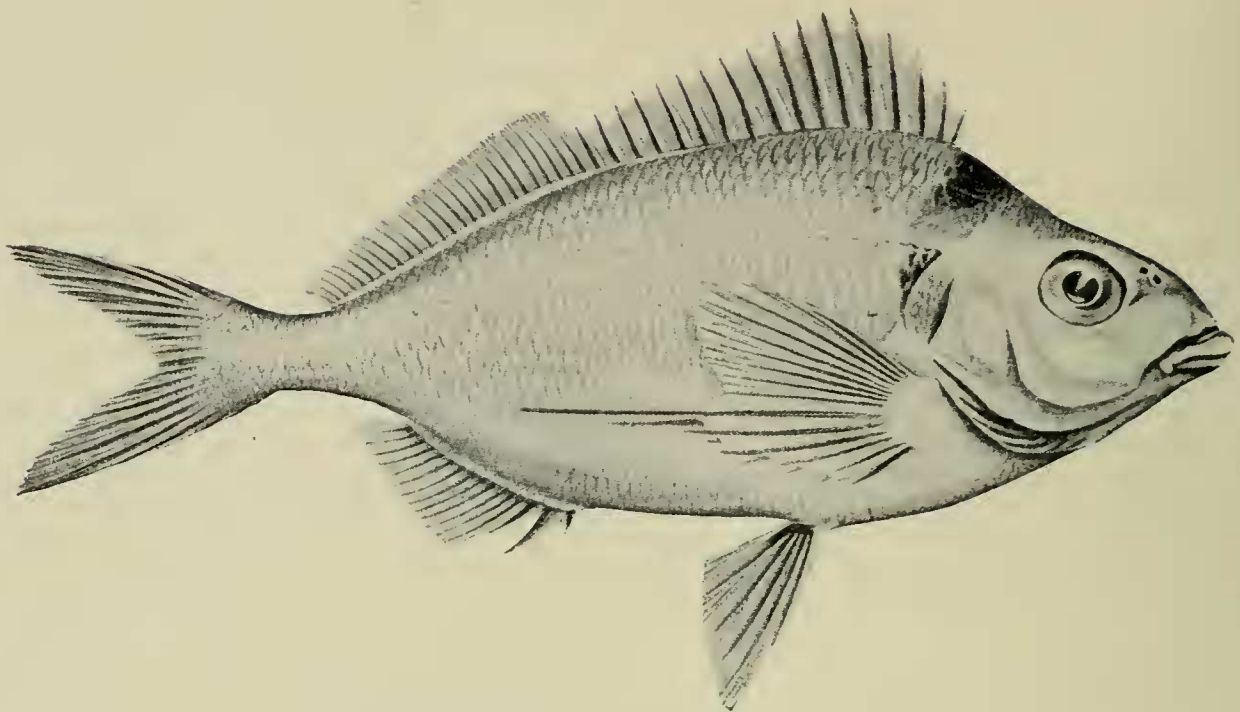


Fig. 187. *Dactylopagrus macropterus*.

Seldom seen here, but one of the commonest food fishes of New Zealand, where it is called The Tarakihi. The name Jackass Fish is in allusion to the cross on the nape.

DACTYLOPHORA De Vis, 1883 (semimaculata=nigricans).

DACTYLOPHORA NIGRICANS Richardson (Strong Fish, Tillywurti).

Chilodactylus nigricans Rich., P.Z.S., 1850, p. 63.

Chilodactylus nebulosus Klunz., Arch. f. Naturg., xxxviii, 1872, p. 26; Steind., Sitzb. Akad. Wiss. Wien, lxxxviii, 1884, p. 1078, pl. ii, fig. 1.

Dactylophora semimaculata De Vis, P.L.S., N.S.W., viii, 1883, p. 284.

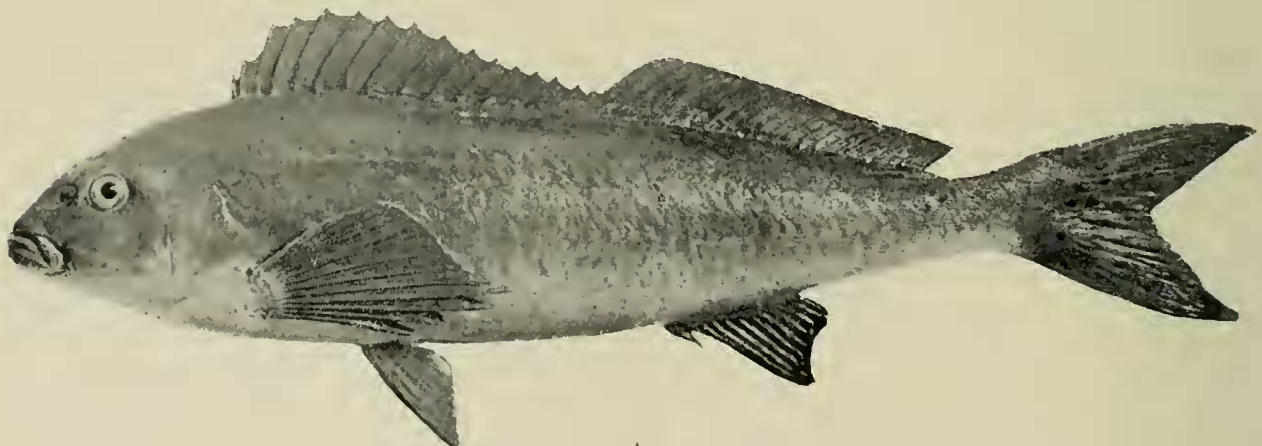


Fig. 188. *Dactylophora nigricans*.

Psilocranium corii and *P. nigricans* Macl., P.L.S., N.S.W., viii, 1884, p. 440, 441, pl. xxii.

Dactylophora nigricans McCull., Rec. W.A. Mus., i, 1914, p. 217 (syn.).

The best known of our Sea-carps; esteemed as food and reaching a length of about 3 feet.

THREPTERIUS Richardson, 1850 (maculosus).

THREPTERIUS MACULOSUS Richardson.

Threpterus maculosus Rich., P.Z.S., 1850, p. 70, pl. ii, fig. 1, 2.

Chironemus maculosus Günth., Cat. Fish. Brit. Mus., ii, 1860, p. 78.

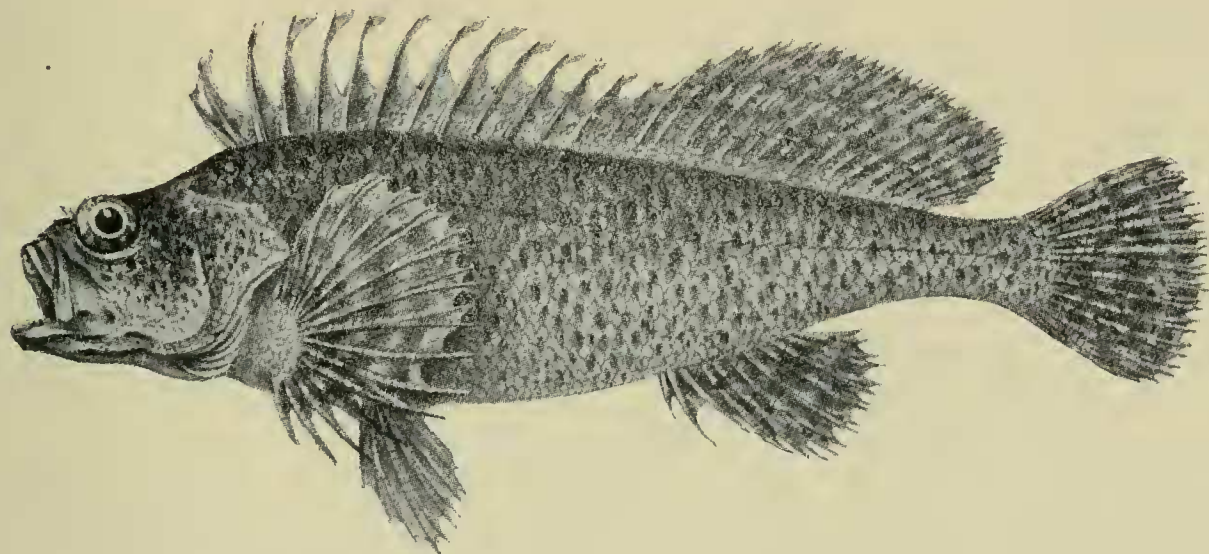


Fig. 189. *Threpterus maculosus*.

FAMILY LATRIDIDAE.

LATRIDOPSIS Gill, 1862 (ciliaris).

LATRIDOPSIS FORSTERI Castelnau (Silver Trumpeter).

Latris forsteri, *L. bilineata* and *L. inornata* Cast., P.Z.S., Viet., i, 1872, p. 77, 79.

?*Latris ramsayi* Ogil., P.L.S., N.S.W., x, 1885, p. 229.

Latris ciliaris Waite, Mem. Aust. Mus., iv, 1899, p. 85; Stead, Edib. Fish. N.S.W., 1908, p. 70, pl. xxxix (not Forst.).

Latridopsis forsteri McCull., Endeavour Res., iii, 1915, p. 146, pl. xxvii.

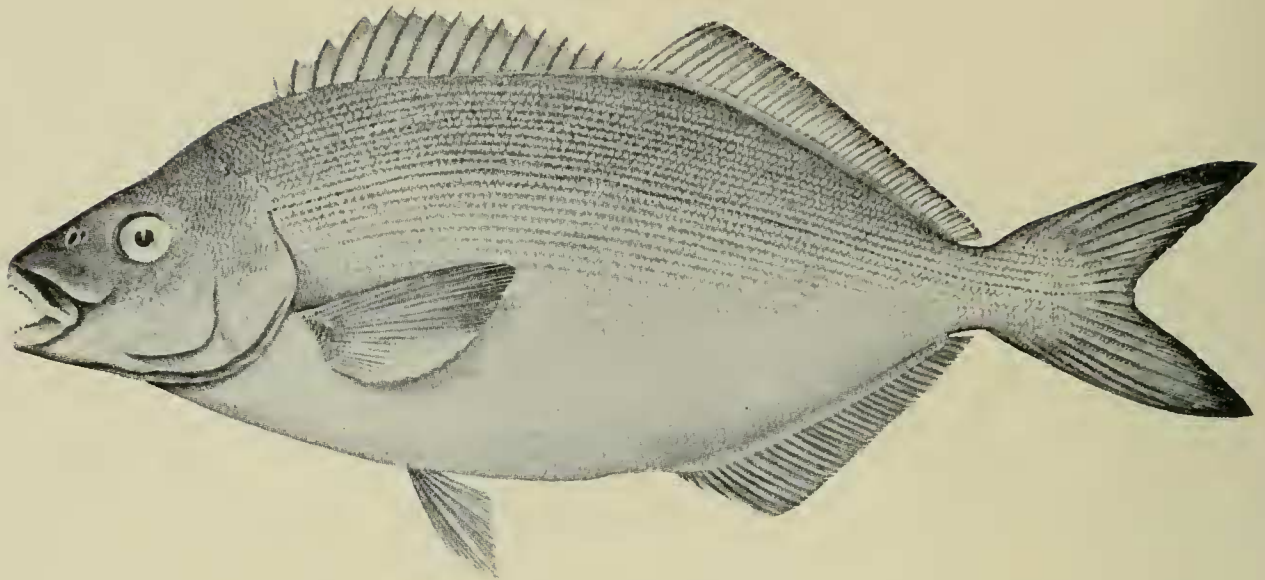


Fig. 190. *Latridopsis forsteri*.

A near relative of the famed "Hobarttown Trumpeter," though not equal to that fish in economic value.

DIVISION POMACENTRIFORMES.

FAMILY POMACENTRIDAE.

PARMA Günther, 1862 (*microlepis*).

PARMA MICROLEPIS Günther (Puller).

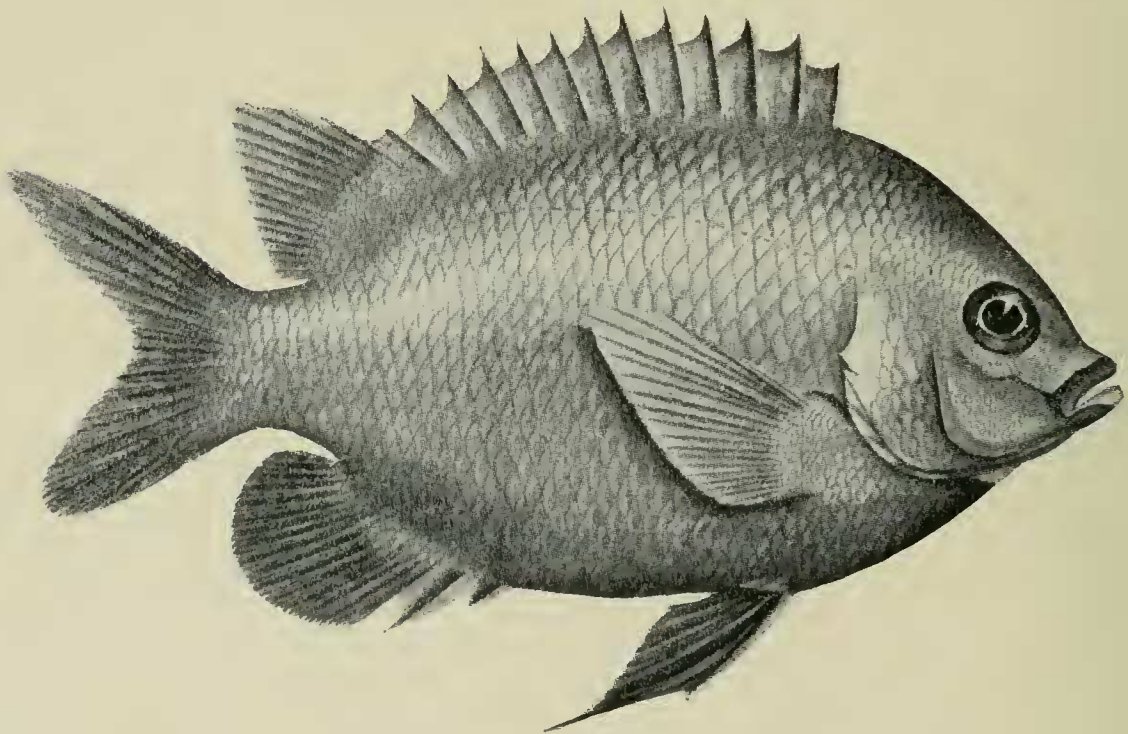


Fig. 191. *Parma microlepis*.

Glyphisodon biocellatus Benn., P.Z.S., 1859, p. 222, pl. ix. fig. A (not Cuv. & Val.).

Parma microlepis Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 57; Stead. Edib. Fish. N.S.W., 1908, p. 81, pl. l.

Parma squamipinnis Günth., *op. cit.*, p. 58, 505.

?*Glyphidodon australis* Steind., Sitzb. Akad. Wiss. Wien, lvi, 1867, p. 328.

Glyphidodon brownriggii Waite, P.L.S., N.S.W. (2), ix, 1894, p. 219 (not Benn.).

Hypsipops microlepis Waite, Rec. Aust. Mus., vi, 1905, p. 67, pl. xii.

GLYPHISODON Lacepède, 1803 (moncharra).

GLYPHISODON VICTORIAE Günther (Scaly-fin).

Glyphidodon victoriae Günth., A.M.N.H. (3), xi, 1863, p. 115.

Heliastes lividus Klunz., Arch. f. Naturg., xxxviii, 1872, p. 36.

Glyphisodon victoriae McCull. & Waite, Rec. S.A. Mus., i, 1918, p. 46, pl. ii, fig. 2.

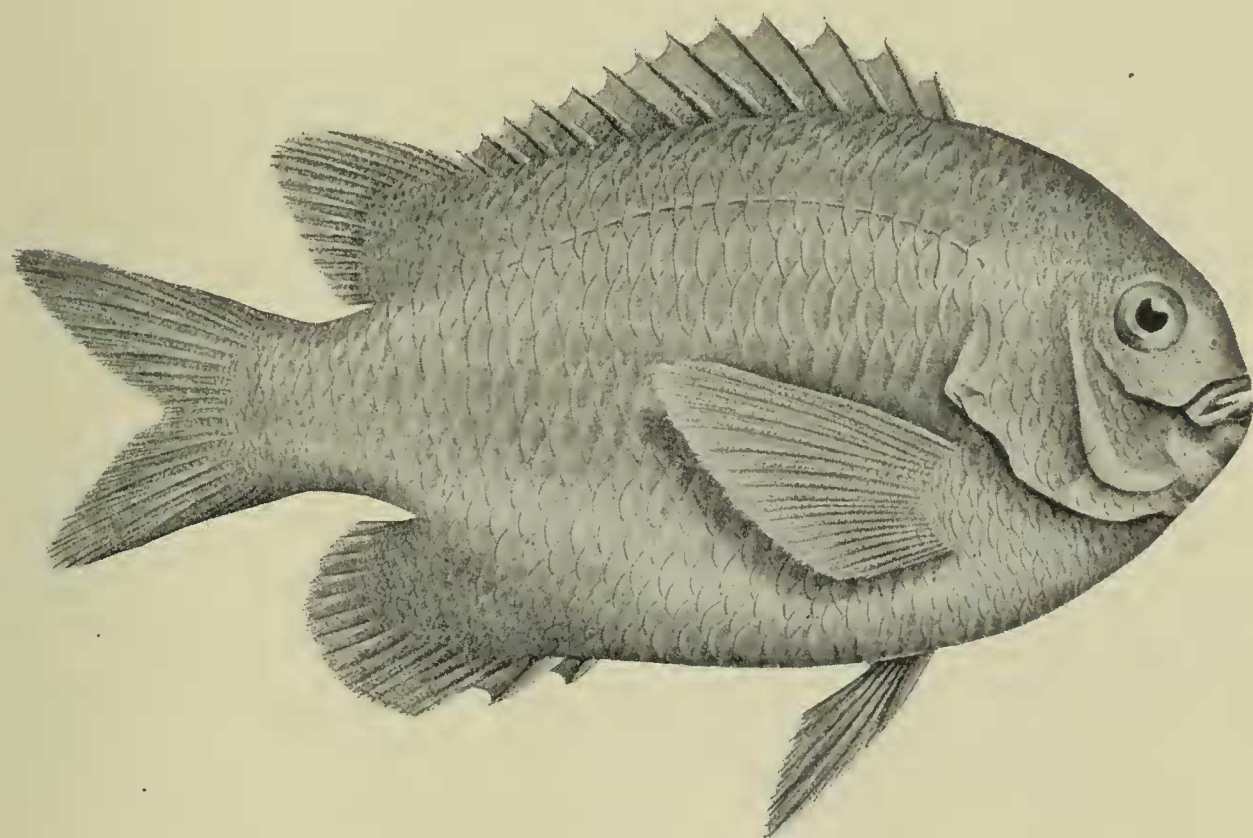


Fig. 192. *Glyphisodon victoriae*.

DIVISION LABRIFORMES.

FAMILY LABRIDAE.

PSEUDOLABRUS Bleeker, 1862 (*rubiginosus*).**PSEUDOLABRUS PSITTACULUS** Richardson.

Labrus psittaculus Rich., P.Z.S., 1840, p. 26 and Zool. Ereb. & Terr., 1848, p. 129, pl. lvi, fig. 7-10.

Labrichthys psittacula Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 114.

Labrichthys rubicunda Mael., P.L.S., N.S.W., vi, 1881, p. 89.

Labrichthys mortonii Johnston, P.R.S., Tasm., 1885, p. 256.

Pseudolabrus psittaculus McCull., Endeavour Res., i, 1911, p. 77, fig. 19.

Pseudolabrus miles McCull., Rec. Aust. Mus., ix, 1913, p. 372 (not Bl. & Schn.).

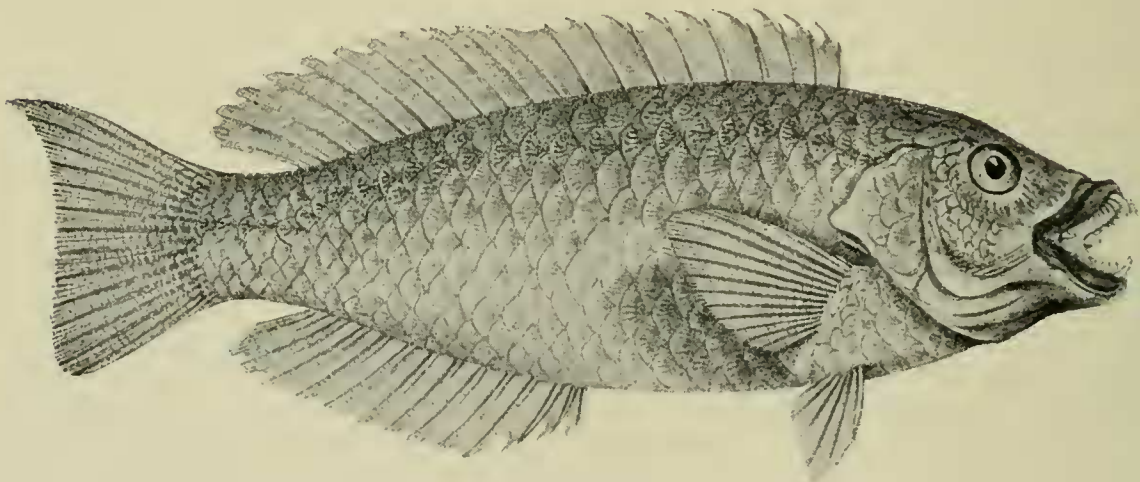


Fig. 193. *Pseudolabrus psittaculus*.

Members of this genus are called Parrot-fishes. Being of herbivorous habit, they do not keep well and are not valued as food.

PSEUDOLABRUS FUCICOLA Richardson.

Labrus fucicola Rich., P.Z.S., 1840, p. 26 and Zool. Ereb. & Terr., 1848, p. 127, pl. liv, fig. 1, 2.

Labrichthys fucicola Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 112 (footnote).

Labrichthys bothryocosmos Hutt., Cat. Fish. N.Z., 1872, p. 43, pl. vii, fig. 68 (not Rich.).

Pseudolabrus fucicola Gill, Mem. Nat. Acad. Sci., vi, 1893, p. 116; McCull., Rec. Aust. Mus., ix, 1913, p. 374, pl. xviii.

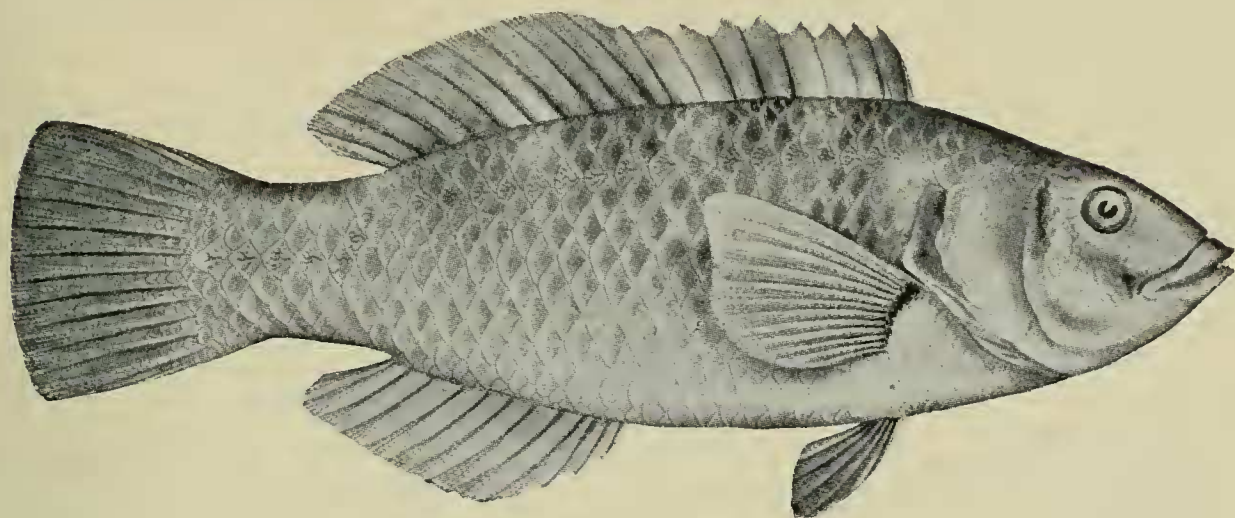


Fig. 194. *Pseudolabrus fucicola*.

PSEUDOLABRUS CELIDOTUS Forster.

Labrus celidotus Forst., in Bl. & Schn., Syst. Ichth., 1801, p. 265; Rich., Zool. Ereb. & Terr., 1848, p. 53, pl. xxxi, fig. 1-5.

Labrus poccilopleura Cuv. & Val., Hist. Nat. Poiss., xiii, 1839, p. 95.

Julis? notatus Rich., A.M.N.H., xi, 1843, p. 425.

Labrus botryocosmus Rich., Zool. Ereb. & Terr., 1848, p. 53, pl. xxxi, fig. 6-10.

Labrichthys celidota Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 113.

Pseudolabrus celidotus Gill, Mem. Nat. Acad. Sci., vi, 1893, p. 98, 117.

Labrichthys bothryocosmus Günth., *op. cit.*, p. 114; Hutt., T.N.Z. Inst., v, 1873, p. 265, pl. x, fig. 68.

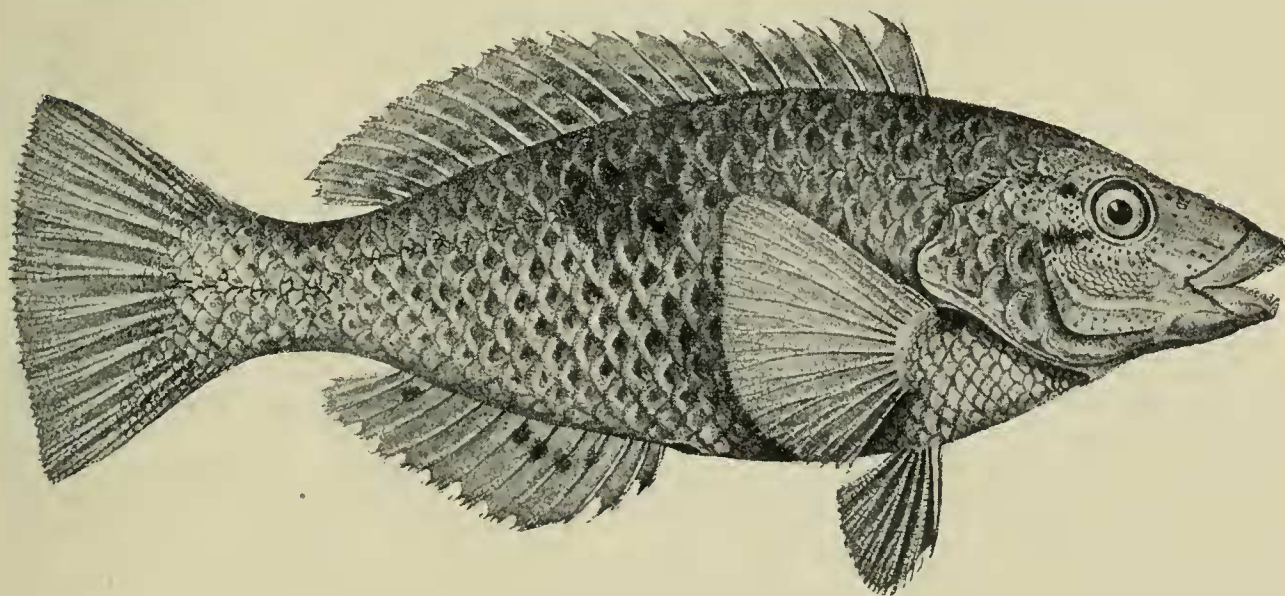


Fig. 195. *Pseudolabrus celidotus*.

PSEUDOLABRUS AURANTIACUS Castelnau.

Cheilinus aurantiacus Cast., P.Z.S., Vict., i, 1872, p. 245.

Labrichthys elegans Steind., Anz. Akad. Wiss. Wien, xx, 1883, p. 195 and Sitzb.

Akad. Wiss. Wien, lxxxviii, 1884, p. 1102, pl. vi, fig. 2 (male), 3 (female).

Pseudolabrus elegans Gill, Proc. U.S. Nat. Mus., xiv, 1892, p. 403.

Pseudolabrus aurantiacus McCull. & Waite, Rec. S.A. Mus., i, 1918, p. 47.

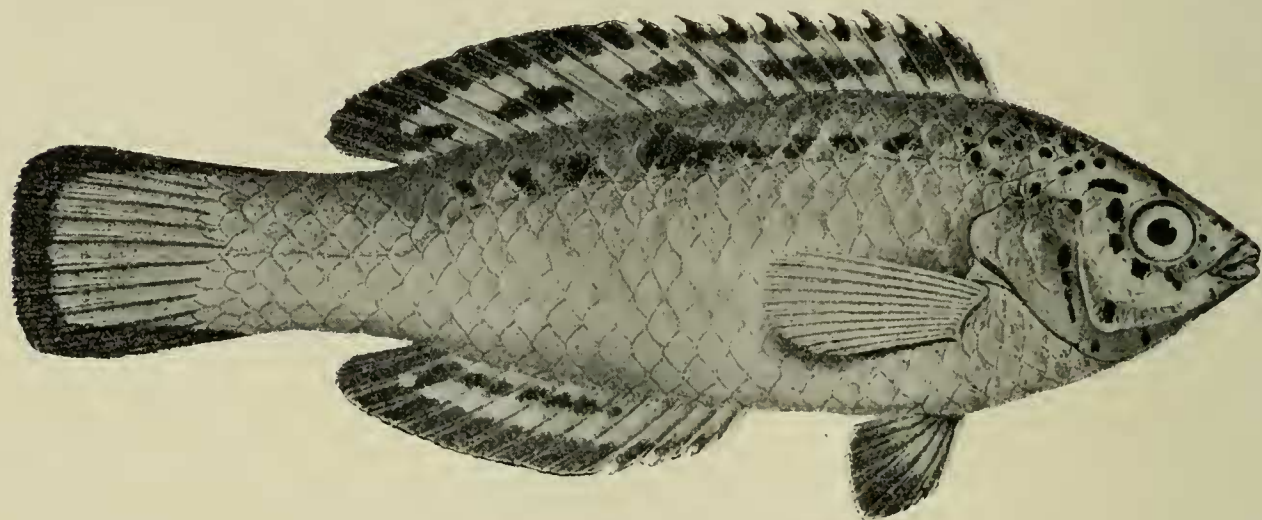


Fig. 196. *Pseudolabrus aurantiacus*.

PSEUDOLABRUS TETRICUS Richardson.

Labrus tetricus Rich., P.Z.S., 1840, p. 25 and Zool. Ereb. & Terr., 1848, p. 126, pl. lv; fig. 1-4.

Labrichthys ephippium Günth., A.M.N.H. (3), xi, 1863, p. 116 (not Cuv. & Val.).

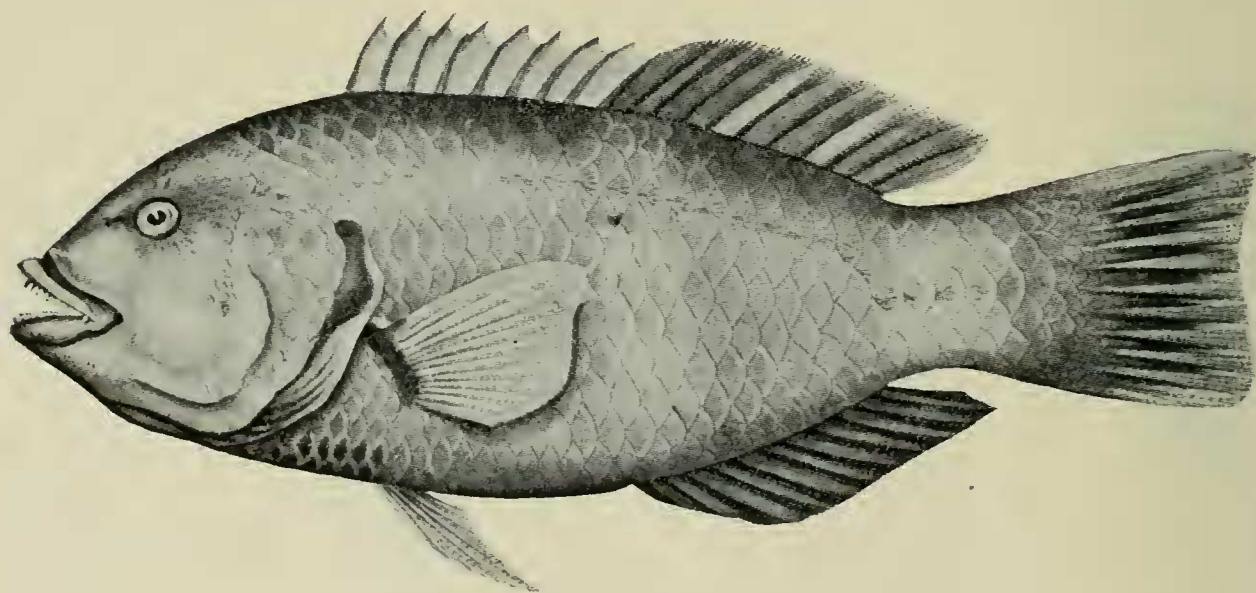


Fig. 197. *Pseudolabrus tetricus*.

Labrichthys tetrica Klunz., Arch. f. Naturg., xxxviii, 1872, p. 37 (with var. *tigripinnis* and *fuscipinnis*) and Sitzb. Akad. Wiss. Wien, lxxx, 1880, p. 401 (with var. *ocellata*).

Labrichthys richardsoni and *L. vestita* Cast., P.Z.S., Viet., i, 1872, p. 150, 151.

Labrichthys bleekeri Cast., *op. cit.*, p. 148; McCoy, Prod. Zool. Viet., dec. xiv, 1887, pl. cxxxiv.

?*Labrichthys currieri* Cast., *op. cit.*, ii, 1873, p. 53.

Labrichthys cyanogenys Rams. & Ogil., P.L.S., N.S.W. (2), ii, 1887, p. 242.

Pseudolabrus cyanogenys Gill, P.U.S. Nat. Mus., xiv, 1891, p. 403; McCull., Endeavour Res., i, 1911, p. 76, pl. xiii.

PSEUDOLABRUS PUNCTULATUS Günther.

Labrichthys punctulata Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 118.

Labrichthys edcensis Cast., P.Z.S., Viet., ii, 1873, p. 137.

Pseudolabrus punctulatus Gill, P.U.S. Nat. Mus., xiv, 1892, p. 401; Waite, Rec. Aust. Mus., vi, 1905, p. 69, pl. xiii.

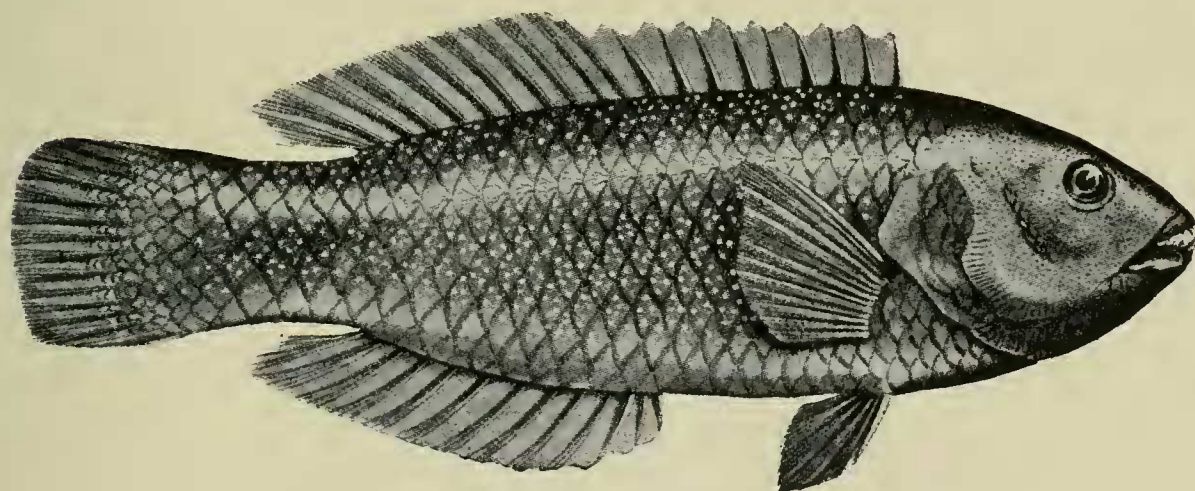


Fig. 198. *Pseudolabrus punctulatus*.

PSEUDOLABRUS MACLEAYI Herzenstein.

Labrichthys macleayi Herz., Ann. Mus. Zool. St. Petersburg., i, 1896, p. 10.

PICTILABRUS Gill, 1891 (*laticlavus*).

PICTILABRUS LATICLAVIUS Richardson (Senator Fish).

Labrus laticlavus Rich., P.Z.S., 1839, p. 99, and Zool. Ereb. & Terr., 1848, p. 128, pl. lvi, fig. 3-6.

Labrichthys laticlavius Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 115, 507;

McCoy, Prod. Zool. Viet., dec. xvii, 1888, pl. clxiii.

Labrichthys labiosa Mael., P.L.S., N.S.W., vi, 1881, p. 88, pl. i, fig. 2.

Pictilabrus laticlavius Gill, P.U.S. Nat. Mus., xiv, 1892, p. 403.

Pseudolabrus laticlavius Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 39.

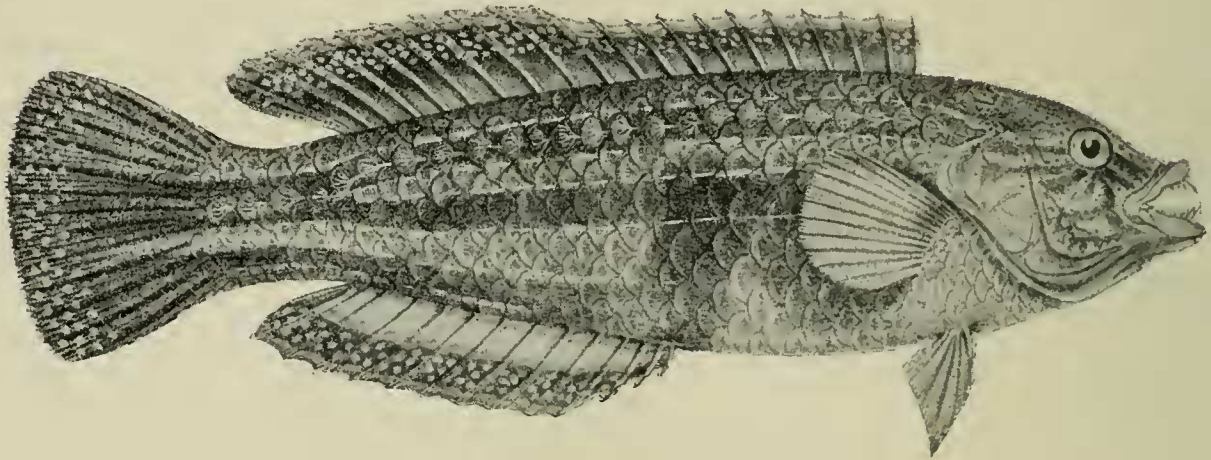


Fig. 200. *Pictilabrus laticlavius*.

AUSTROLABRUS Steindachner, 1884 (maculatus).

AUSTROLABRUS MACULATUS Macleay.

Labrichthys maculata Mael., P.L.S., N.S.W., vi, 1881, p. 89 (not De Vis).

Austrolabrus maculatus Steind., Sitzb. Akad. Wiss. Wien, lxxxviii, 1884, p. 1100,

pl. v (male) and vi fig. 1 (female); McCull., Rec. Aust. Mus., ix, 1913, p. 367, pl. xvi.

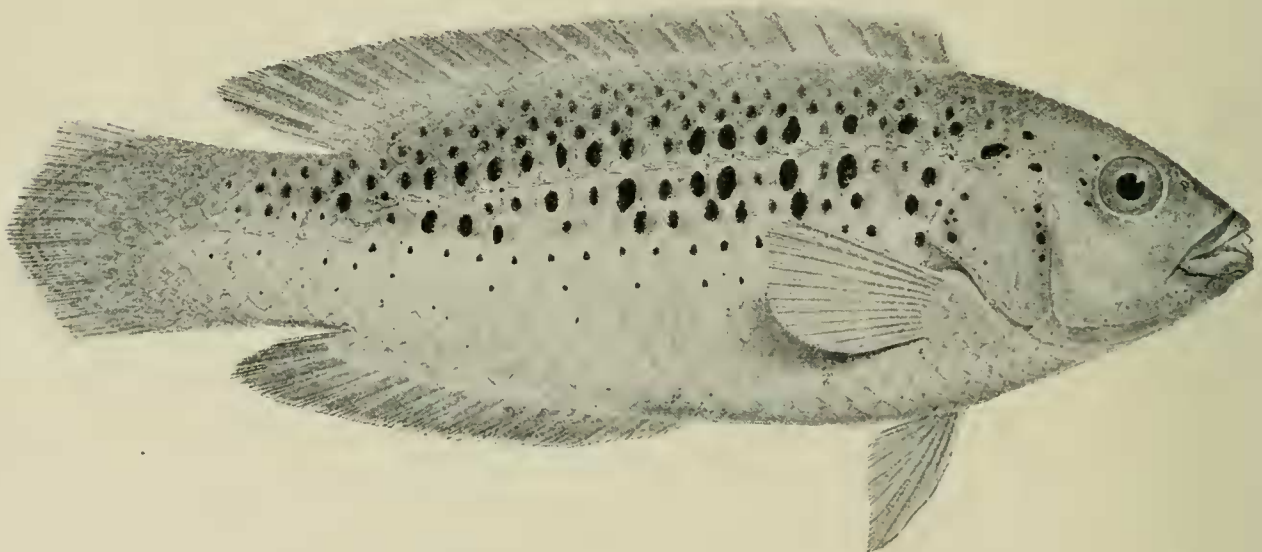


Fig. 201. *Austrolabrus maculatus*.

THALLIURUS Swainson, 1839 (blochi).**THALLIURUS BLEASDALEI Castelnau.**

Hemigymnus bleasdalei Cast., Res. Fish. Aust., 1875, p. 38.

OPHTHALMOLEPIS Bleeker, 1861 (lineolatus).**OPHTHALMOLEPIS LINEOLATUS Cuvier & Valenciennes (Maori).**

Julis lineolatus Cuv. & Val., Hist. Nat. Poiss., xiii, 1839, p. 436.

Julis cyanogramma Rich., A.M.N.H. (2), vii, 1851, p. 289.

Ophthalmolepis lineolata Bleek., P.Z.S., 1861, p. 413; Roughley, Fish. Aust., 1916, p. 157, pl. liv; Kner, Reise Novara, 1865, p. 258, pl. xi.

Coris lineolata Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 206; Ogil., Edib. Fish. N.S.W., 1893, p. 142; Stead, Edib. Fish. N.S.W., 1908, p. 84, pl. liv.

Julis adelaidensis Cast., Res. Fish. Aust., 1875, p. 35.

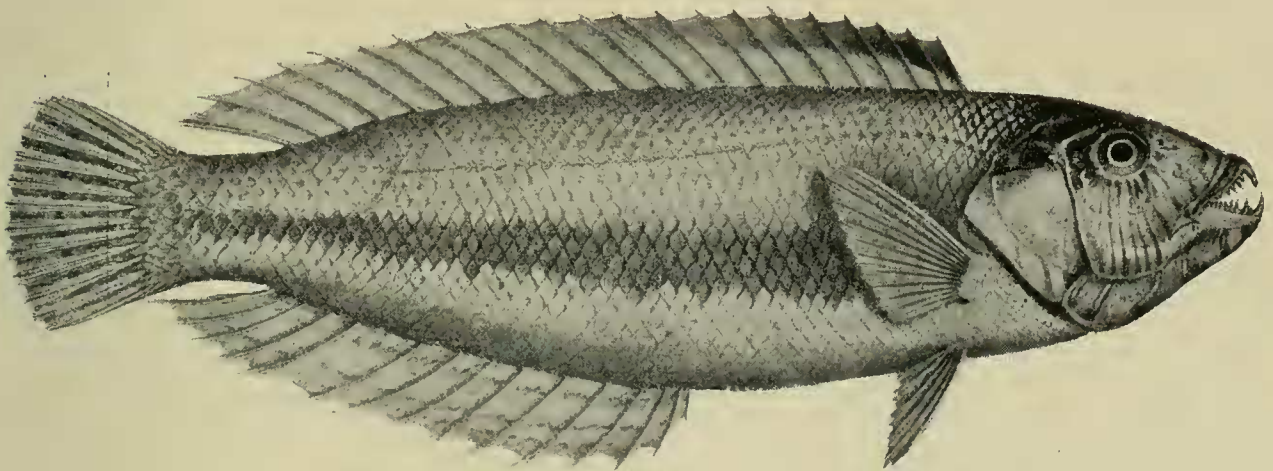


Fig. 203. *Ophthalmolepis lineolatus*.

As food, superior to the Parrot-fishes.

ACHOERODUS Gill, 1863 (gouldii).**ACHOERODUS GOULDII Richardson (Groper).**

Labrus gouldii Rich., A.M.N.H., xi, 1843, p. 353.

Cossyphus gouldii Rich., Zool. Ereb. & Terr., 1848, p. 132 and P.Z.S., 1850, p. 72, pl. iii, fig. 3; Ten. Woods, Fish. N.S.W., 1883, p. 74, pl. xxxi.

Achoerodus gouldi Gill, Proc. Acad. Nat. Sci. Phil., xv, 1863, p. 222; Roughley, Fish. Aust., 1916, p. 147, pl. xlvi (Blue form) and xlv (Red form).

Platychoerops muelleri Klunz., Sitzb. Akad. Wiss. Wien, lxxx, 1880, p. 399, pl. viii, fig. 2.

Platychoerops gouldi Ogil., Edib. Fish. N.S.W., 1893, p. 132, pl. xxxv.

Platychoerops badius Ogil., *op. cit.*, p. 131.

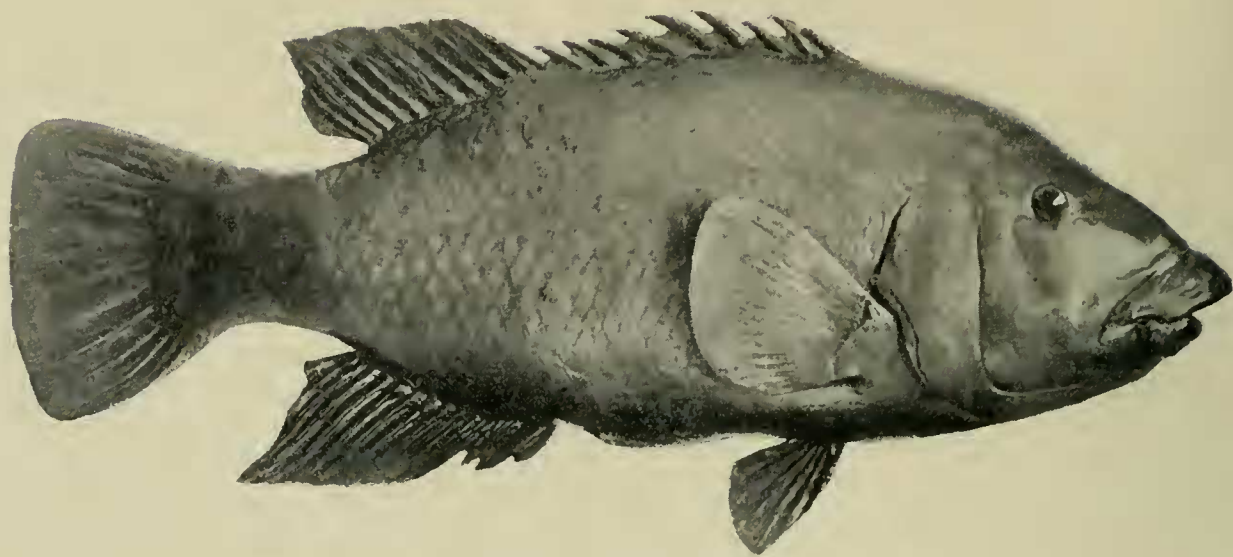


Fig. 204. *Achoerodus gouldii*.

Two colour varieties occur, respectively known as Blue and Red Gropers. Attains a length of $3\frac{1}{2}$ feet and a weight of 40 lb. Not greatly favoured as food.

FAMILY ODACIDAE.

ODAX Cuvier, 1829 (pullus).

ODAX RADIATUS Quoy & Gaimard.

Malacanthus radiatus Quoy & Gaim., Voy. Astrolabe, Zool., iii, 1835, p. 717.
pl. xix, fig. 2.

Cheilio lineatus Cuv. & Val., Hist. Nat. Poiss., xiii, 1839, p. 354.

Odar lineatus Rich., Zool. Ererb. & Terr., 1848, p. 133, pl. lx, fig. 1-5.

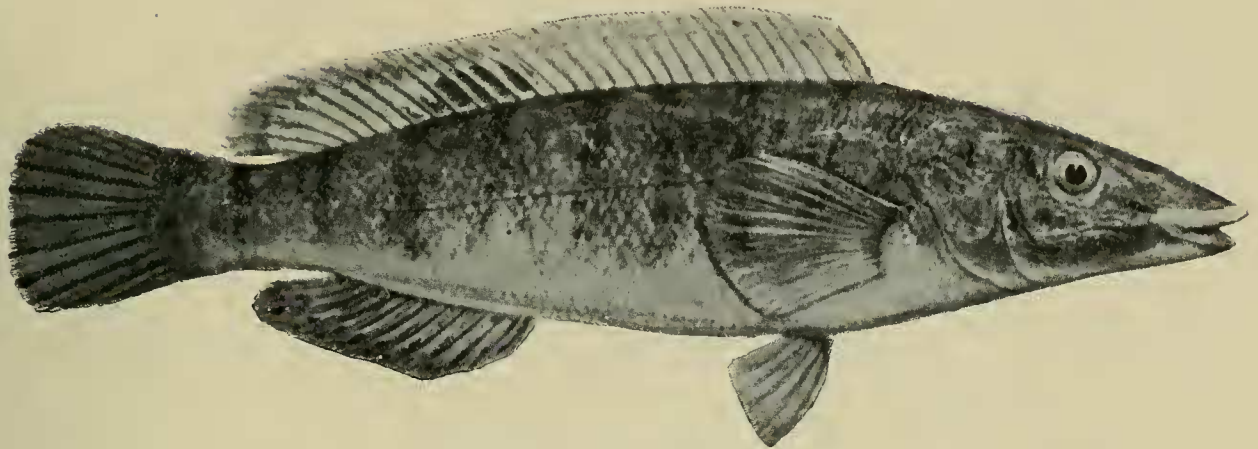
Odar radiatus Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 242.

ODAX RICHARDSONII Günther (Rock Whiting).

Odar pullus Cuv. & Val., Hist. Nat. Poiss., xiv, 1839, p. 304, pl. cccviii, fig. 1 (not Forst.).

Odar richardsonii Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 241; Roughley, Fish. Aust., 1916, p. 159, pl. lv; Klunz., Sitzb. Akad. Wiss. Wien, lxxx, 1880, p. 404; Ogil., Edib. Fish. N.S.W., 1893, p. 143, pl. xxxvi; Stead, Edib. Fish. N.S.W., 1908, p. 85, pl. lv.

Odar hyrtlüi Steind., Sitzb. Akad. Wiss. Wien, liii, 1866, p. 464.

Fig. 206. *Odax richardsonii*.

The Rock Whitings have no affinities with members of the Family *Sillaginidae*; the respective food values are not comparable.

ODAX FRENATUS Günther.

Odax frenatus Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 241.

ODAX PUSILLUS Castelnau.

Odax pusillus Cast., P.Z.S., Vict., ii, 1873, p. 72.

ODAX WATERHOUSII Castelnau.

Neodar waterhousii Cast., Res. Fish. Aust., 1875, p. 37.

Odax waterhousei Macl., P.L.S., N.S.W., vi, 1881, p. 109.

OLISTHOPS Richardson, 1850 (cyanomelas).

OLISTHOPS CYANOMELAS Richardson (Herring Cale).

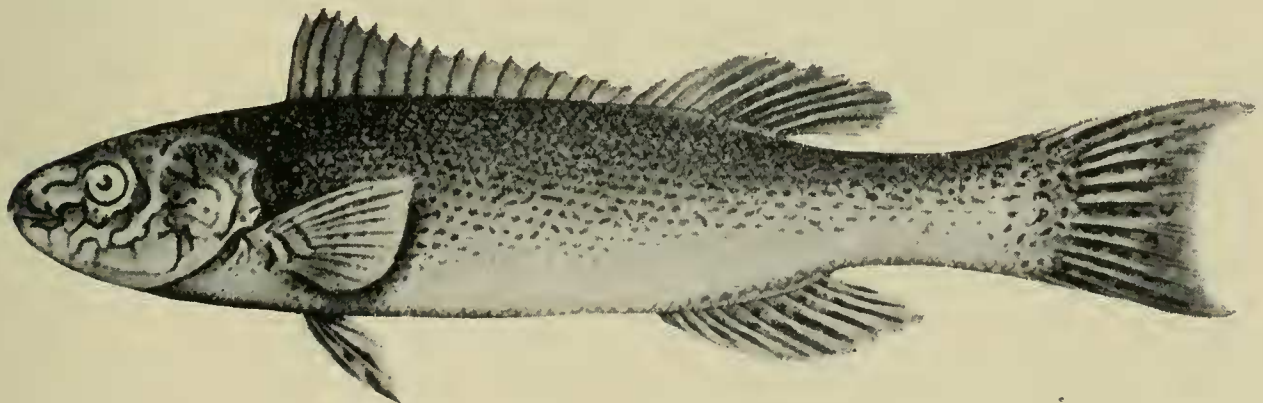
Olisthops cyanomelas Rich., P.Z.S., 1850, p. 75, pl. iii, fig. 1, 2; Ogil., Edib. Fish.

N.S.W., 1893, p. 145; Stead, Edib. Fish. N.S.W., 1908, p. 85, pl. lvi; McCull.,

Rec. Aust. Mus., xiii, 1920, p. 69, pl. xiv, fig. 3.

Olistherops brunneus Macl., P.L.S., N.S.W., iii, 1878, p. 36, pl. v, fig. 1.

Olistherops brownii Johnst., P.R.S., Tasm., 1884, p. 193.

Fig. 210. *Olisthops cyanomelas*.

SIPHONOGNATHUS Richardson, 1857 (*argyrophanes*).**SIPHONOGNATHUS ARGYROPHANES** Richardson (Tube-mouth).

Siphonognathus argyrophanes Rich., P.Z.S., 1857, p. 238, pl. vi.

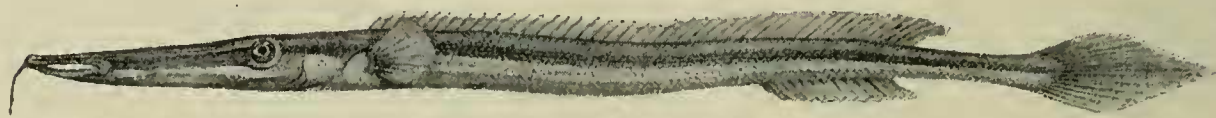


Fig. 211. *Siphonognathus argyrophanes*.

Lives among seaweed; of no economic value.

FAMILY SCARIDAE.

PSEUDOSCARUS Bleeker, 1861 (*microrhinos*).**PSEUDOSCARUS MODESTUS** Castelnau.

Pseudoscarus modestus Cast., Res. Fish. Aust., 1875, p. 41.

Members of the Families *Oducidae* and *Scaridae* differ from those of the *Labridae* by having the teeth in each jaw united to form a sharp-edged plate.

PSEUDOSCARUS DUMERILII Castelnau.

Pseudoscarus dumerilii Cast., Res. Fish. Aust., 1875, p. 41.

HETEROSCARUS Castelnau, 1872 (*filamentosus*).**HETEROSCARUS FILAMENTOSUS** Castelnau (Rainbow-fish).

Heteroscarus filamentosus Cast., P.Z.S., Viet., i, 1872, p. 246 and ii, 1873, p. 74;

Steind., Sitzb. Akad. Wiss. Wien, lxxxviii, 1884, p. 1092, pl. iii, fig. 1 (male).

Heteroscarus modestus Cast., *op. cit.*, i, p. 246 and ii, p. 75.

?*Heteroscarus castelnaui* Macl., P.L.S., N.S.W., iii, 1878, p. 36, pl. v, fig. 2;

Steind., *op. cit.*, p. 1095, 1097, pl. iv (female) and (*H. elegans*), iii, fig. 2 (young).

?*Heteroscarus tenuiceps* De Vis, P.L.S., N.S.W., ix, 1885, p. 883.

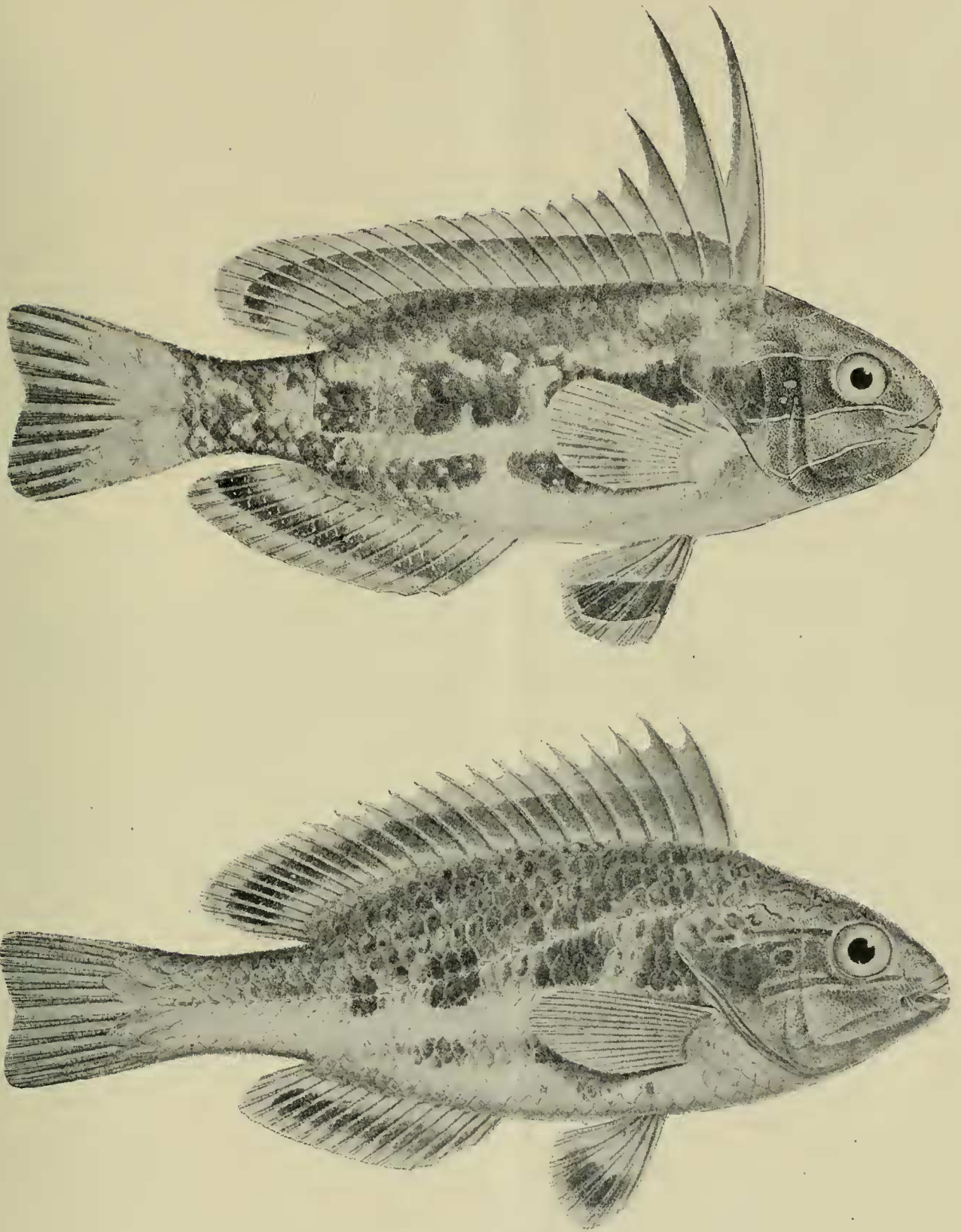


Fig. 214. *Heteroscarus filamentosus* male and female.

One of our most gorgeous fishes. Illustrated on the coloured frontispiece.

DIVISION GADOPSIFORMES.

FAMILY GADOPSIDAE.

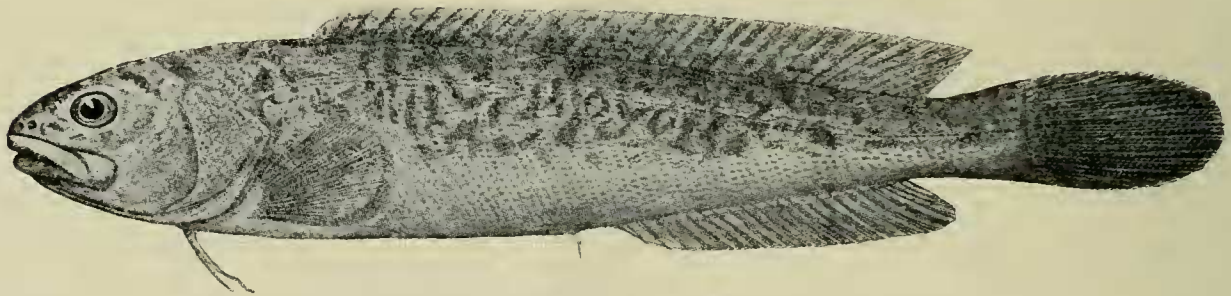
GADOPSIS Richardson, 1848 (*marmoratus*).**GADOPSIS MARMORATUS** Richardson (Slippery, River Blackfish).

Gadopsis marmoratus Rich., Zool. Ereth. & Terr., 1848, p. 122, pl. lix, fig. 611;
Ogil., Edib. Fish. N.S.W., 1893, p. 149 and Mem. Qld. Mus., ii, 1913, p. 69,
pl. xx (syn. and econ. hist.); Stead, Edib. Fish. N.S.W., 1908, p. 116,
pl. lxxx.

Gadopsis gracilis McCoy, Prod. Zool. Viet., dec. iii, 1879, pl. xxvii, fig. 2.

Gadopsis gibbosus McCoy, *op. cit.*, p. 41.

Gadopsis fuscus Steind., Sitzb. Akad. Wiss. Wien, lxxxviii, 1884, p. 1105, pl. i,
fig. 2.

Fig. 215. *Gadopsis marmoratus*.

Attains a length of 25 inches in Victoria; specimens over 10 inches are unknown in our streams.

DIVISION TRACHINIFORMES.

FAMILY PINGUIPEDIDAE.

NEOPERCIS Steindachner & Döderlein, 1884 (*ramsayi*).**NEOPERCIS RAMSAYI** Steindachner.

Percis ramsayi Steind., Anz. Akad. Wiss. Wien, xx, 1883, p. 194.

Parapercis ramsayi Steind., Sitzb. Akad. Wiss. Wien, lxxxviii, 1884, p. 1072.

Percis novae-cambriae Ogil., P.L.S., N.S.W., x, 1885, p. 228.

Parapercis novae-cambriae Waite, Mem. Aust. Mus., iv, 1899, p. 111, pl. xxv.

Neopercis novae-cambriae Waite, Rec. Aust. Mus., v, 1904, p. 237.

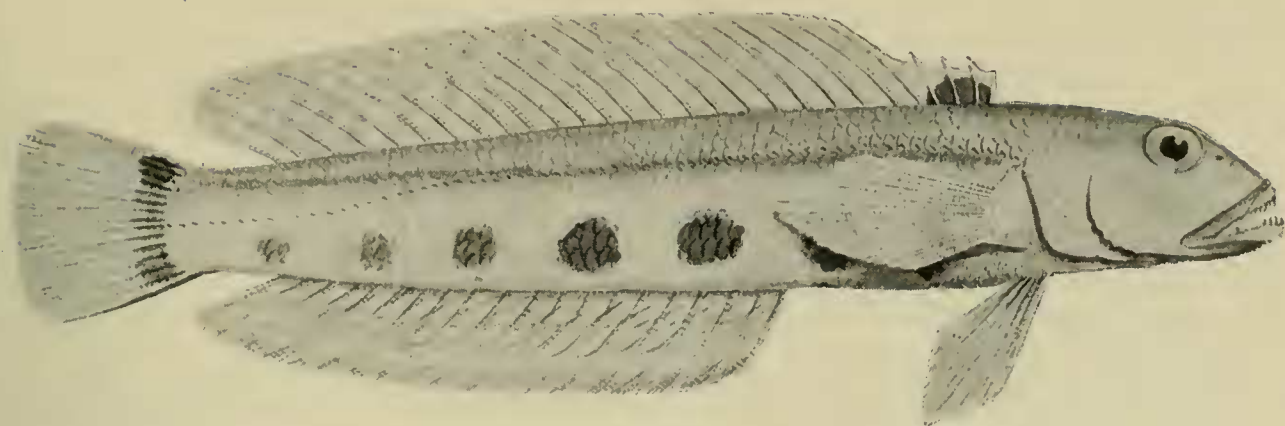


Fig. 216. *Neopercis ramsayi*.

Our members of this Family are fleshy little fishes, but are not taken in sufficient numbers to be generally used as food.

NEOPERCIS HAACKEI Steindachner.

Percis haackei Steind., Sitzb. Akad. Wiss. Wien, lxxxviii, 1884, p. 1070.

Neopercis haackei Steind. & Döder., Denk. Akad. Wiss. Wien, xlix, 1884, p. 212.

Parapercis haackei McCull., Endeavour Res., ii, 1914, p. 155, pl. xxxiv, fig. 2.

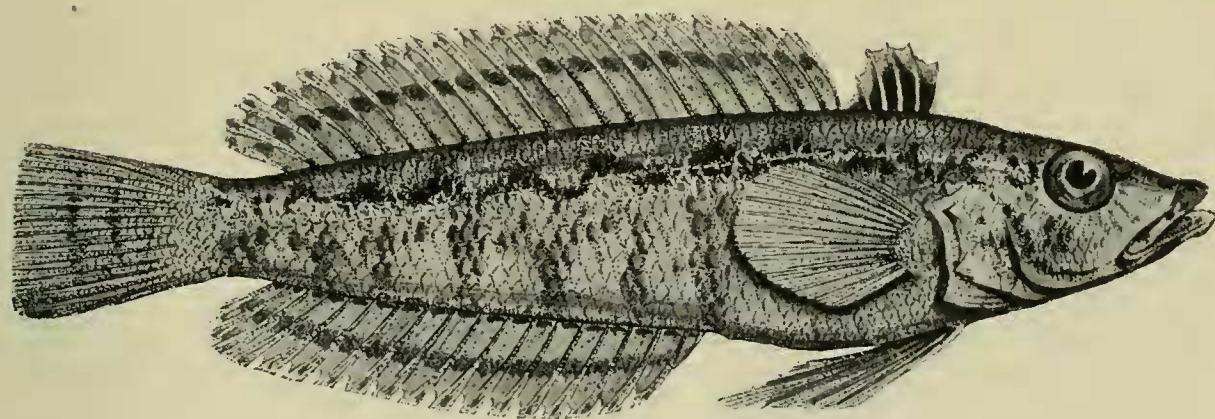


Fig. 217. *Neopercis haackei*.

NEOPERCIS ALLPORTI Günther.

Percis allporti Günth., A.M.N.H. (4), xvii, 1876, p. 394.

Parapercis ocellaris Waite, Mem. Aust. Mus., iv, 1899, p. 109, pl. xxiv.

Neopercis allporti Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 50.

Parapercis allporti McCull., Endeavour Res., ii, 1914, p. 157.

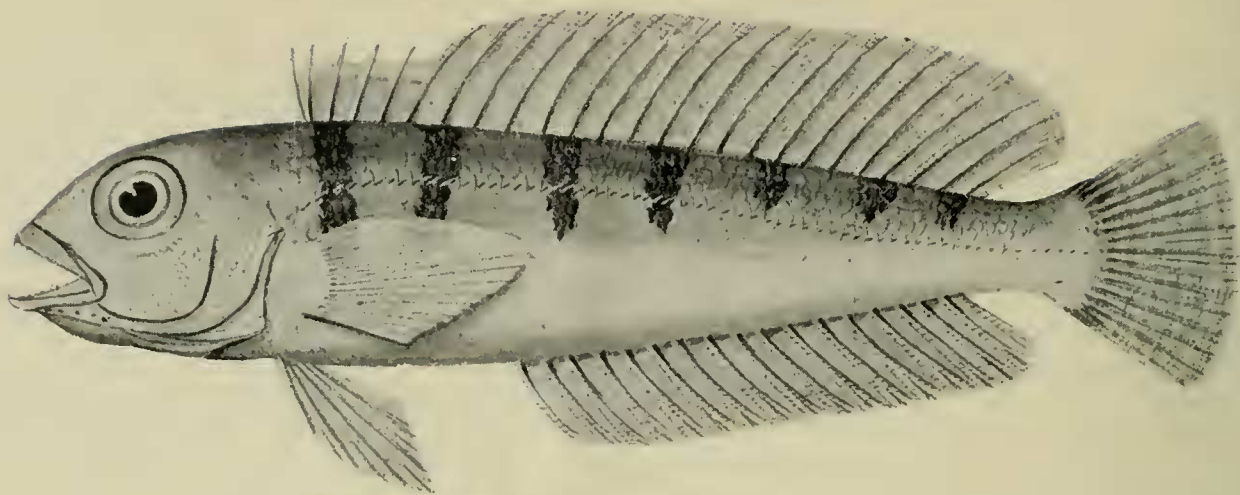


Fig. 218. *Neoperca allporti*.

FAMILY URANOSCOPIDAE.

KATHETOSTOMA Günther, 1860 (*laeve*).

KATHETOSTOMA LAEVE Bloch & Schneider (Stone-lifter).

Uranoscopus laevis Bl. & Schn., Syst. Ichth., 1801, p. 47, pl. viii.

Kathetostoma laeve Günth., Cat. Fish. Brit. Mus., ii, 1860, p. 231; Stead, Fish. Aust., 1906, p. 206, pl. viii; Waite & McCull., T.R.S., S.A., xxxix, 1915, p. 471, pl. xiii, fig. 3 (head).

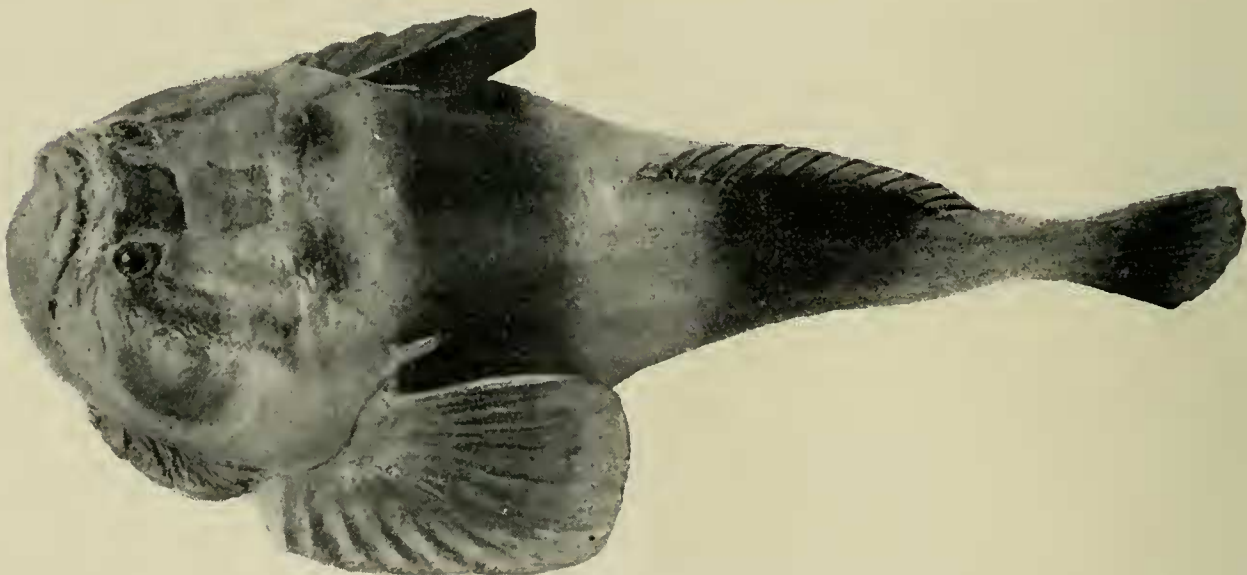


Fig. 219. *Kathetostoma laeve*.

The repulsive appearance of the Stone-lifters militates against their popularity as food.

KATHETOSTOMA NIGROFASCIATUM Waite & McCulloch (Banded Stone Lifter).

Kathetostoma nigrofasciatum Waite & McCull., T.R.S., S.A., xxxix, 1915, p. 469, pl. xiii, fig. 1, 2.

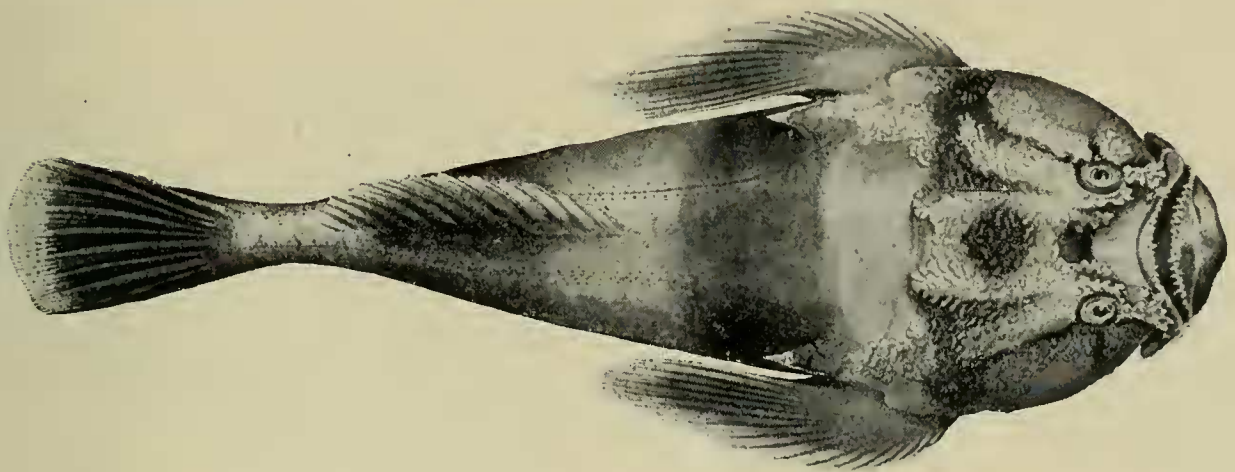


Fig. 220. *Kathetostoma nigrofasciatum*.

DIVISION NOTOTHENIIFORMES.

FAMILY BOVICHTHYIDAE.

PSEUDAPHRITIS Castelnau, 1872 (*bassii*=*urvillii*).

PSEUDAPHRITIS URVILLII Cuvier & Valenciennes (Congolli).

Aphritis urvillii Cuv. & Val., Hist. Nat. Poiss., viii, 1831, p. 484, pl. cexliii.

Pseudaphritis bassii Cast., P.Z.S., Viet., i, 1872, p. 92.

Aphritis bassii Ogil., Rec. Aust. Mus., i, 1890, p. 68.

Pseudaphritis urvillii Ogil., P.L.S., N.S.W., xxii, 1898, p. 560.

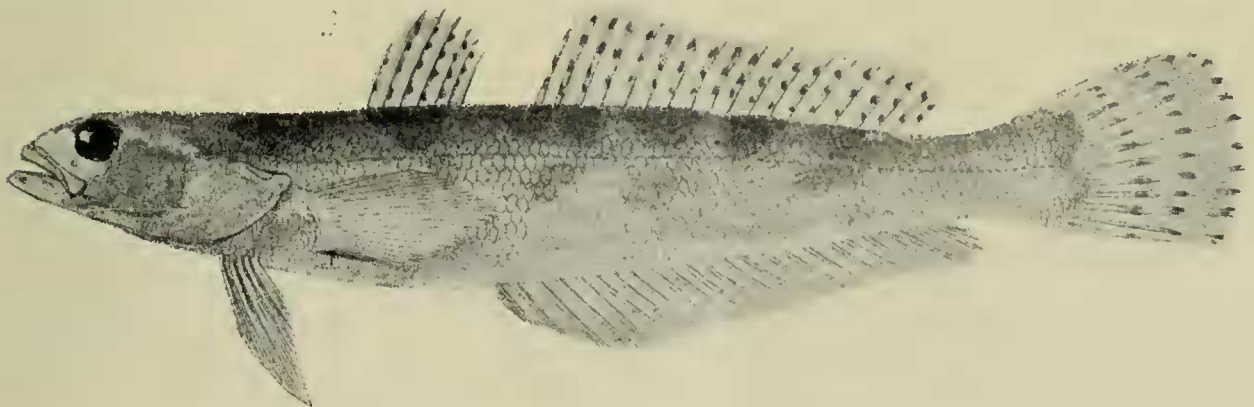


Fig. 221. *Pseudaphritis urvillii*.

Occurs in our estuarine rivers in both salt and fresh water. It reaches a length of 14 inches and is a fairly well-flavoured table fish.

BOVICHTHYS Cuvier & Valenciennes, 1831 (diacanthus).
(Originally written *Borichtus*.)

BOVICHTHYS VARIEGATUS Richardson.

Bovichthys variegatus Rich., Zool. Ereb. & Terr., 1846, p. 56, pl. xxxiv, fig. 1-4.

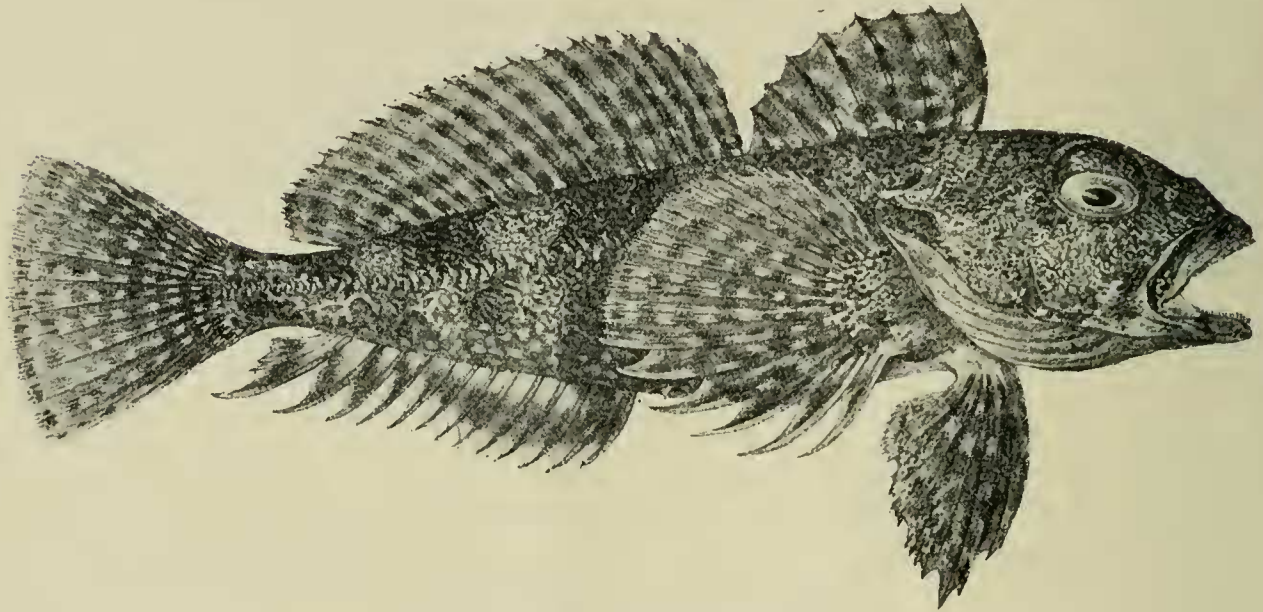


Fig. 222. *Borichthys variegatus*.

DIVISION CALLIONYMIFORMES.

FAMILY CALLIONYMIDAE.

CALLIONYMUS Linnaeus, 1758 (lyra).

CALLIONYMUS CALAUROPOMUS Richardson (Stink-fish).

Callionymus calauropomus Rich., Zool. Ereb. & Terr., 1844, p. 10, pl. vii, fig. 4, 5; McCoy, Prod. Zool. Viet., dec. xx, 1890, pl. excii.

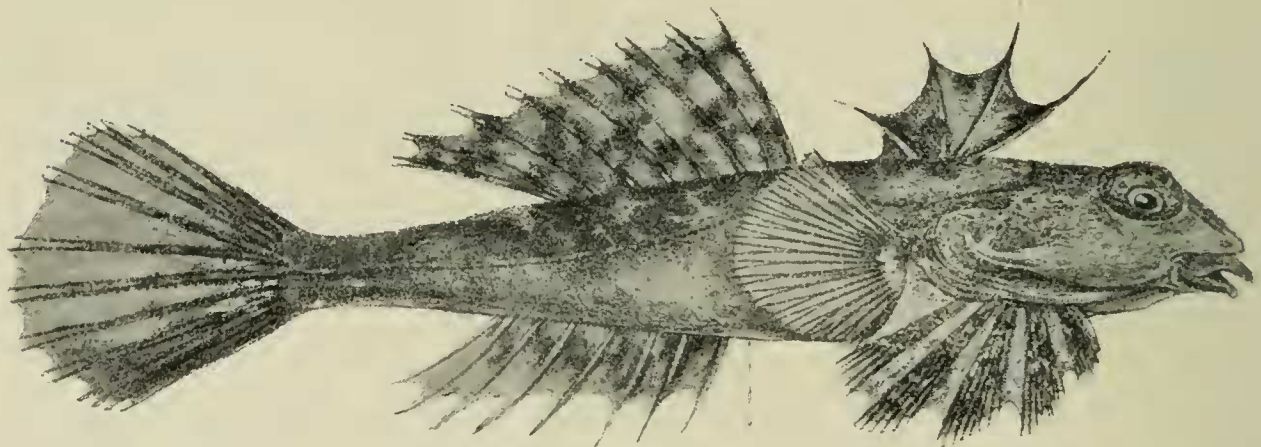


Fig. 223. *Callionymus calauropomus*.

SUB-ORDER SCOMBROIDEA.**FAMILY SCOMBRIDAE.****THUNNUS** South, 1845 (*thynnus*).**THUNNUS THYNNUS** Linnaeus (*Tunny*).

Scomber thynnus Linn., Syst. Nat. (ed. x), 1758, p. 297.

Scomber albacores Bonnat., Encycl. Ichth., 1788, p. 120.

Thynnus mediterraneus Risso, Eur. Merid., iii, 1826, p. 414.

Thynnus vulgaris, *T. brachypterus*, *T. coretta* and *Scomber sloanei* Cuv. & Val.,
Hist. Nat. Poiss., viii, 1831, p. 58, 98, 102, 148, pl. ccx, ccxi.

Thynnus maccoyii Cast., P.Z.S., Viet., i, 1872, p. 104; Roughley, Fish. Aust.,
1916, p. 164, pl. lvii.

Thynnus thynnus McCoy, Prod. Zool. Viet., dec. v, 1880, pl. xlv, fig. 2.

Orcynus schlegelii Steind. & Döder., Denk. Akad. Wiss. Wien, xlvii, 1884, p.
10, pl. iii, fig. 1.

Albacora thynnus Jord., Proc. Acad. Nat. Sci. Phila., 1888, p. 180.

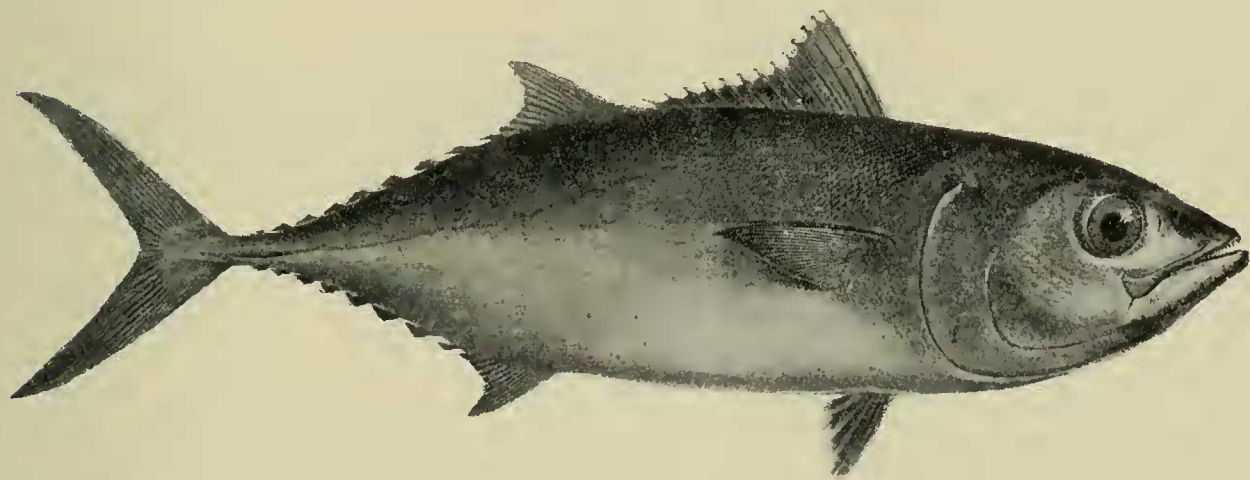


Fig. 224. *Thunnus thynnus*.

The famous Tuna of American anglers; reaches a weight of 1,500 lb. The flesh of large examples is very oily.

SCOMBER Linnaeus, 1758 (*scombrus*).**SCOMBER COLIAS** Gmelin (*Mackerel*).

Scomber colias Gmel., Syst. Nat. (ed. xiii), 1789, p. 1329; Cuv. & Val., Hist. Nat. Poiss., viii, 1831, p. 39, pl. ccix; Day, Fish. Gt. Brit. & Irel., i, 1881, p. 91, pl. xxxiv; Stead, Edib. Fish. N.S.W., 1908, p. 94, pl. lxiii; Roughley, Fish. Aust., 1916, p. 162, pl. lvi.

Scomber pneumatophorus De la Roche, Ann. Mus. Hist. Nat., xiii, 1809, p. 315, 334; McCoy, Prod. Zool. Viet., dec. iii, 1879, pl. xxviii; Ogil., Edih. Fish. N.S.W., 1893, p. 93.

Scomber australasicus Cuv. & Val., Hist. Nat. Poiss., viii, 1831, p. 49.

Scomber antarcticus Cast., P.Z.S., Viet., i, 1872, p. 106.

Pneumatophorus pneumatophorus Jord. & Gilb., P.U.S. Nat. Mus., v, 1882, p. 593.

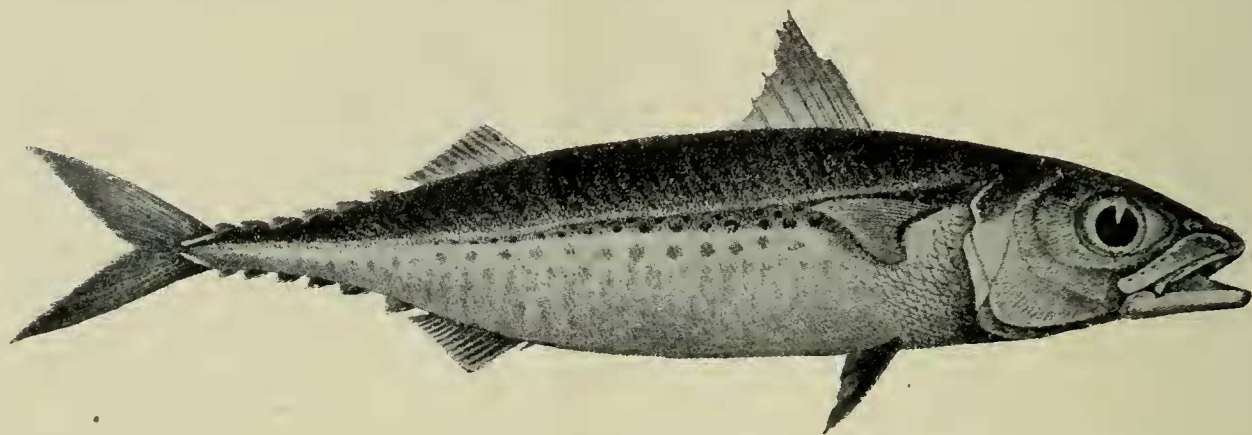


Fig. 225. *Scomber colias*.

The famous Blue-cod of New Zealand, which, in the writer's opinion, is the finest food-fish Australasia produces.

SUB-ORDER TRICHIUROIDEA.

FAMILY TRICHIURIDAE.

THYRSITES Cuvier, 1829 (atun).

THYRSITES ATUN Euphrasen (Barracouta).

Scomber atun Euphr., Vetensk. Acad. Nya Handl., xii, 1791, p. 315.

Thyrsites atun and *T. chilensis* Cuv. & Val., Hist. Nat. Poiss., viii, 1831, p. 196,

204, pl. cexix; Valenci., in Cuv., Règ. Anim., Ill. Poiss., 1839, pl. xlix, fig. 1;

McCoy, Prod. Zool. Viet., dec. v, 1880, pl. xlv, fig. 1.

Thyrsites altivelis Rich., P.Z.S., 1839, p. 99.

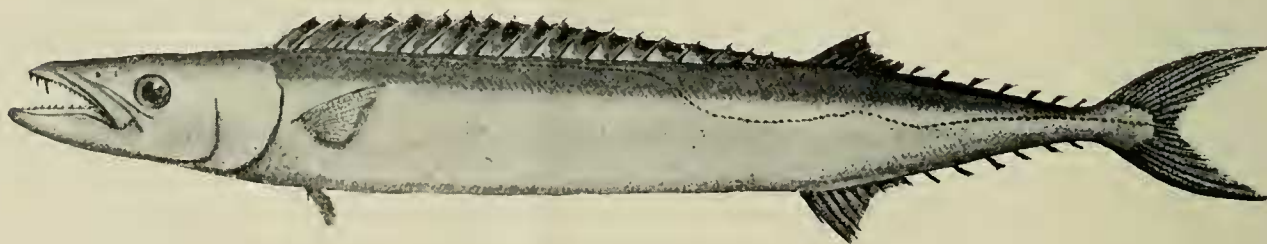


Fig. 226. *Thyrsites atun*.

The illustration is of a New Zealand specimen. Examples taken in our waters are generally infested with muscle worms and are much emaciated; in such condition they are spoken of as "axe-handles."

SUB-ORDER XIPHIOIDEA.

FAMILY XIPHIIDAE.

XIPHIAS Linnaeus, 1758 (*gladius*).

XIPHIAS GLADIUS Linnaeus (*Swordfish*).

Xiphias gladius Linn., Syst. Nat. (ed. x), 1758, p. 248; Cuv. & Val., Hist. Nat. Poiss., viii, 1831, p. 255, pl. cccxxv, cccxxvi; Valenci., in Cuv., Règ. Anim., Ill. Poiss., pl. 1, lii; Day, Fish. Gt. Brit. & Irel., i, 1881, p. 146, pl. xlix.
Xiphias rondeletii Leach, Zool. Misc., i, 1814, p. 62, pl. xxvii and Mem. Wern. Nat. Hist. Soc., ii, 1818, p. 58, pl. ii, fig. 1.

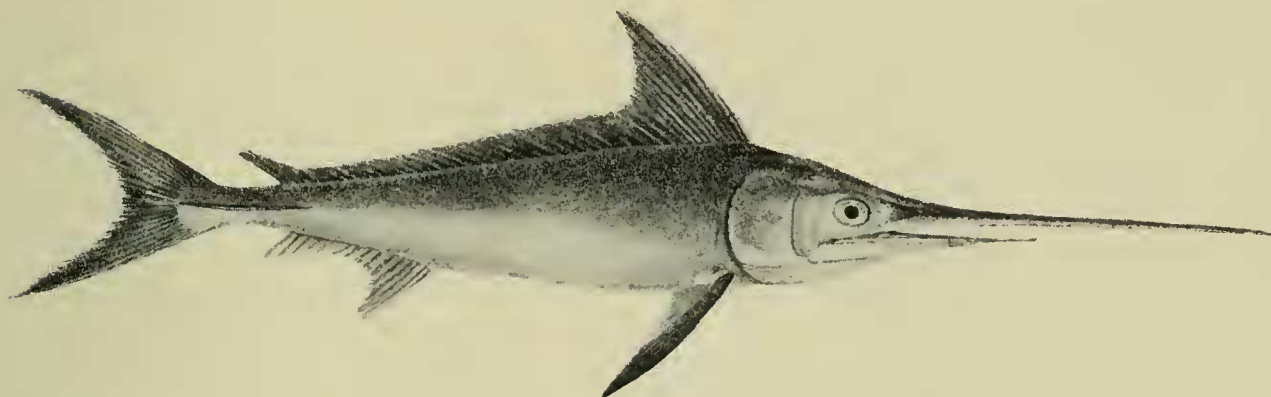


Fig. 227. *Xiphias gladius*.

The species is here determined from an imperfect skull, 4 ft. 2 in. in total length, found at Windsor, St. Vincent Gulf. The Museum possesses the sword of another example, taken at Port Augusta, Spencer Gulf; this specimen measured 14 feet in length; the species is said to attain to 15 feet. The extremely flattened sword is characteristic of this monotypic Family.

SUB-ORDER GOBIOIDEA.

FAMILY GOBIIDAE.

GOBIUS Linnaeus, 1758 (*niger*).

GOBIUS BIFRENATUS Kner (*Bridled Goby*, Tarkatuki).

Gobius bifrenatus Kner, Reise Novara, 1865, p. 177, pl. vii, fig. 3; Klunz., Sitzb. Akad. Wiss. Wien, lxxx, 1880, p. 383; McCull. & Ogil., Rec. Aust. Mus., xii, 1919, p. 242.

Gobius bassensis Cast., P.Z.S., Viet., i, 1872, p. 123.

Gobius caudatus Cast., *op. cit.*, ii, 1873, p. 47.

?*Gobius frenatus* Zietz, T.R.S., S.A., xxvi, 1902, p. 267 (not Günth.).

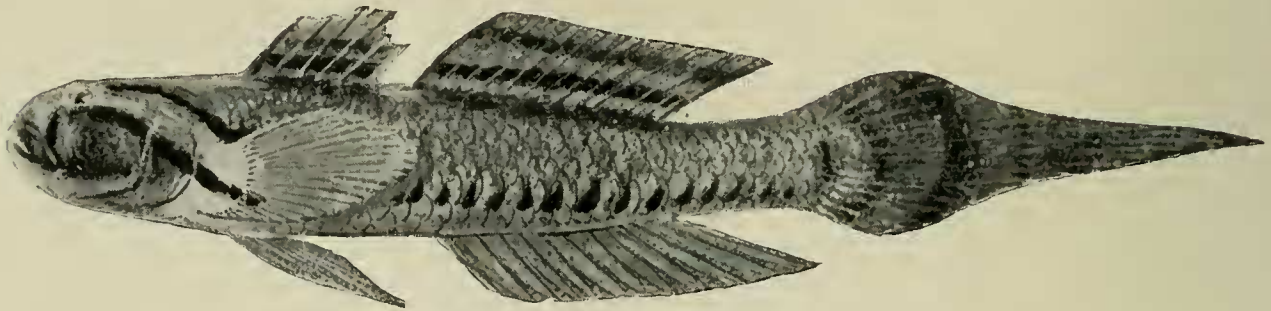


Fig. 228. *Gobius bifrenatus*.

All the Gobies are small fishes, economically used only as bait. Several species are kept in aquaria.

GOBIUS HINSBYI McCulloch & Ogilby.

Gobius pictus Cast., P.Z.S., Viet., i, 1872, p. 124 (not Malm.).

Gobius hinsbyi Johnston, P.R.S., Tasm., 1903, p. x (name only); McCull. & Ogil., Rec. Aust. Mus., xii, 1919, p. 215, pl. xxxiii, fig. 1.

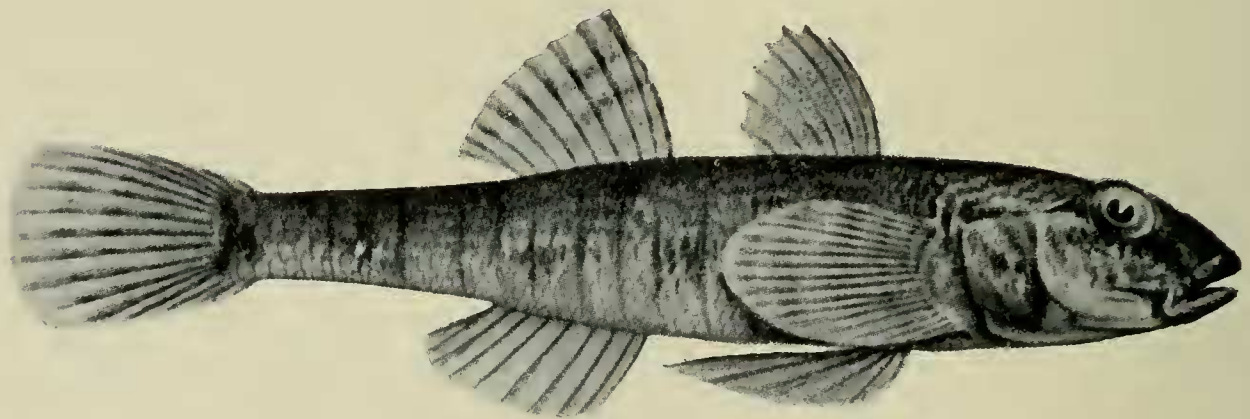


Fig. 229. *Gobius hinsbyi*.

GOBIUS LATERALIS Macleay.

Gobius lateralis Macl., P.L.S., N.S.W., v, 1881, p. 602.

Rhinogobius lateralis McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 48, pl. ii, fig. 3.

Rhinogobius lateralis var. *obliquus* McCull. & Ogil., Rec. Aust. Mus., xii, 1919, p. 249, pl. xxxiv, fig. 4.

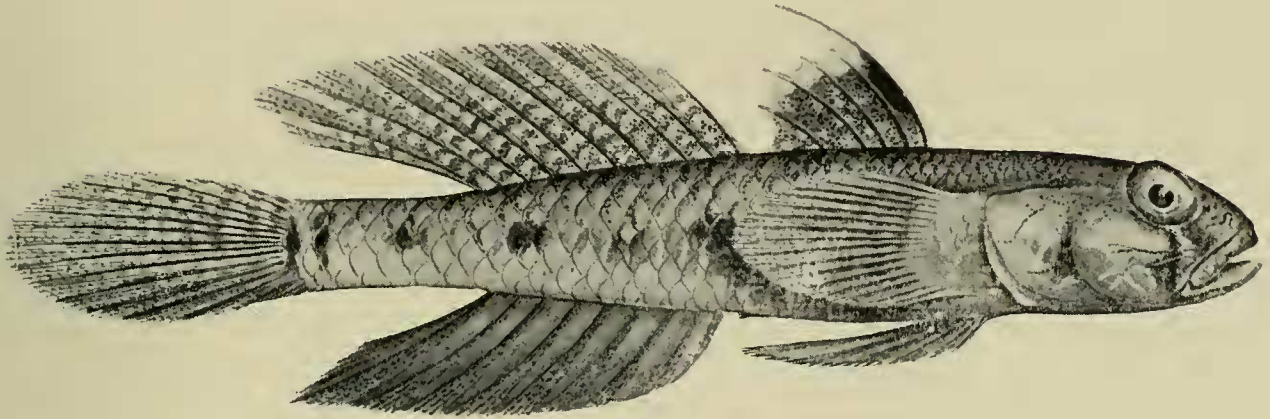


Fig. 230. *Gobius lateralis*.

GObIUS HAACKEI Steindachner.

Gobius haackei Steind., Anz. Akad. Wiss. Wien, xx, 1883, p. 194 and Sitzb. Akad. Wiss. Wien, lxxxviii, 1884, p. 1074.

GObIUS FILAMENTOSUS Castelnau.

Gobius filamentosus Cast., Res. Fish. Aust., 1875, p. 19.

GObIUS EREMIUS Zietz.

Gobius eremius Zietz, Rep. Horn. Exped., ii, 1896, p. 180, pl. xvi, fig. 5; McCull., Rec. Aust. Mus., xi, 1917, p. 183, pl. xxxi, fig. 1.

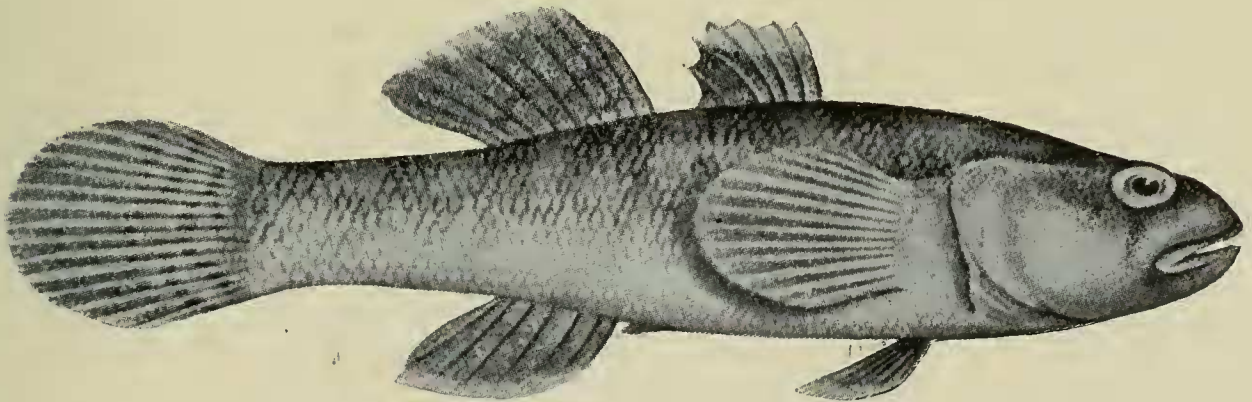


Fig. 233. *Gobius eremius*.

VALENCIENNEA Bleeker, 1868 (*hasselti*).**VALENCIENNEA HASSELTII** Bleeker.

Eleotris hasselti Bleek., Nat. Tijds. Ned. Indie., i, 1851, p. 253.

South Australian specimens are referred to a variety as below.

var. **MUCOSA** Günther.

Gobius mucosus Günth., P.Z.S., 1871, p. 663, pl. lxiii, fig. A.

Gobius depressus Rams. & Ogil., P.L.S., N.S.W. (2), i, 1886, p. 4.

Mucogobius mucosus McCull., Rec. W. Aust. Mus., i, 1912, p. 93.

Callogobius hasseltii var. *mucosus* McCull. & Ogil., Rec. Aust. Mus., xii, 1919, p. 217, pl. xxxii, fig. 4.

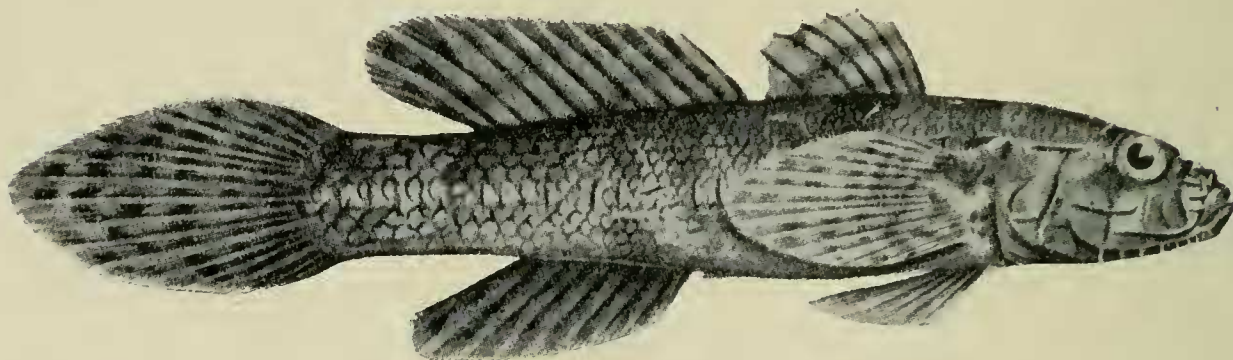


Fig 234. *Valencienna hasseltii* var. *mucosa*.

MUGILOGOBIUS Smitt, 1899 (*fontinalis*).**MUGILOGOBIUS GALWAYI** McCulloch & Waite (Blue-spot Goby).

Mugilogobius galwayi McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 50, pl. iii, fig. 1.

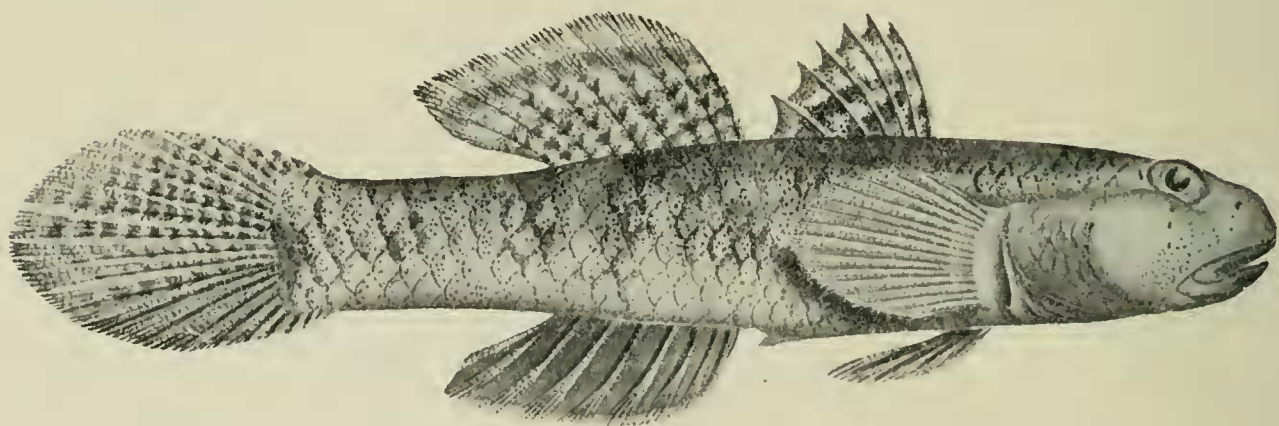


Fig. 235. *Mugilogobius galwayi*.

FAMILY ELEOTRIDAE.

MOGURNDA Gill, 1863 (mogurnda).**MOGURNDA ADSPERSA** Castelnau (Chequered Gudgeon).

Eleotris mogurnda Bleek., Nederl. Tijdschr. Dierk., ii, 1865, p. 71 (not Rich.).

Eleotris adspersa Cast., P.L.S., N.S.W., iii, 1878, p. 142.

Eleotris minus and *E. concolor* De Vis, P.L.S., N.S.W., ix, 1884, p. 690, 692.

Krefftius adspersus Ogil., P.L.S., N.S.W., xxii, 1898, p. 789; Waite, Rec. Aust. Mus., v, 1904, p. 282, pl. xxv, fig. 1.

Mogurnda mogurnda adspersus McCull & Ogil., Rec. Aust. Mus., xii, 1919, p. 282.

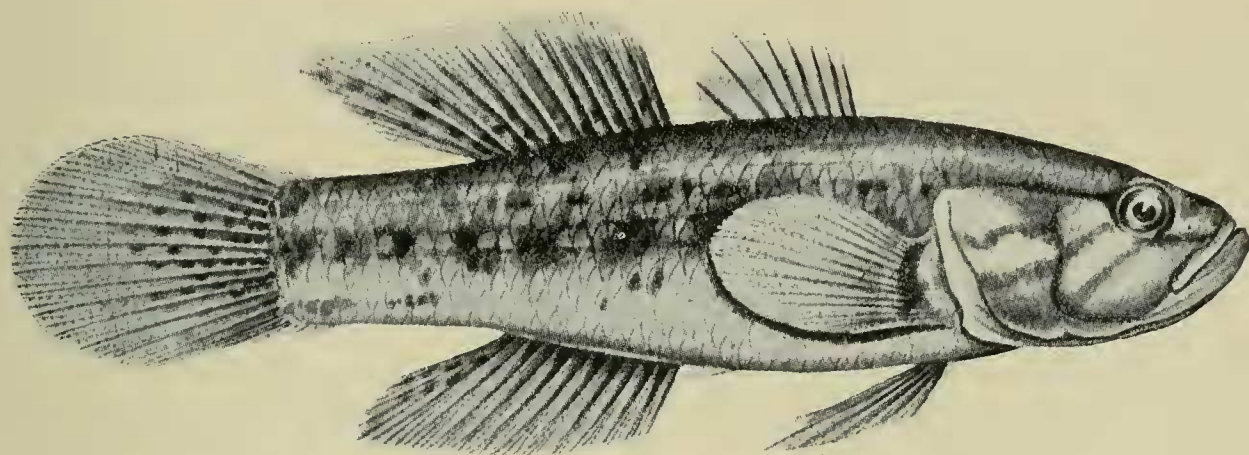


Fig. 236. *Mogurnda adspersa*.

A favourite aquarium fish, successfully introduced into America and there bred by fanciers.

PHILYPNODON Bleeker, 1874 (nudiceps=grandiceps?).**PHILYPNODON GRANDICEPS** Krefft (Big-headed Gudgeon).

Eleotris grandiceps Krefft, P.Z.S., 1864, p. 183.

Eleotris gymnocephalus Steind., Sitzb. Akad. Wiss. Wien, liii, 1866, p. 453, pl. ii, fig. 3.

?*Eleotris nudiceps* Cast., P.Z.S., Viet., i, 1872, p. 126.

Gymnobotis gymnocephalus Bleek., Arch. Neerl. Sci. Nat., ix, 1874, p. 304.

Ophiorrhinus grandiceps Ogil., P.L.S., N.S.W., xxi, 1897, p. 746.

Ophiorrhinus angustifrons Ogil., *op. cit.*, xxii, 1898, p. 793.

Philypnodon grandiceps Waite, Rec. Aust. Mus., v, 1904, p. 285, pl. xxxvi, fig. 2.

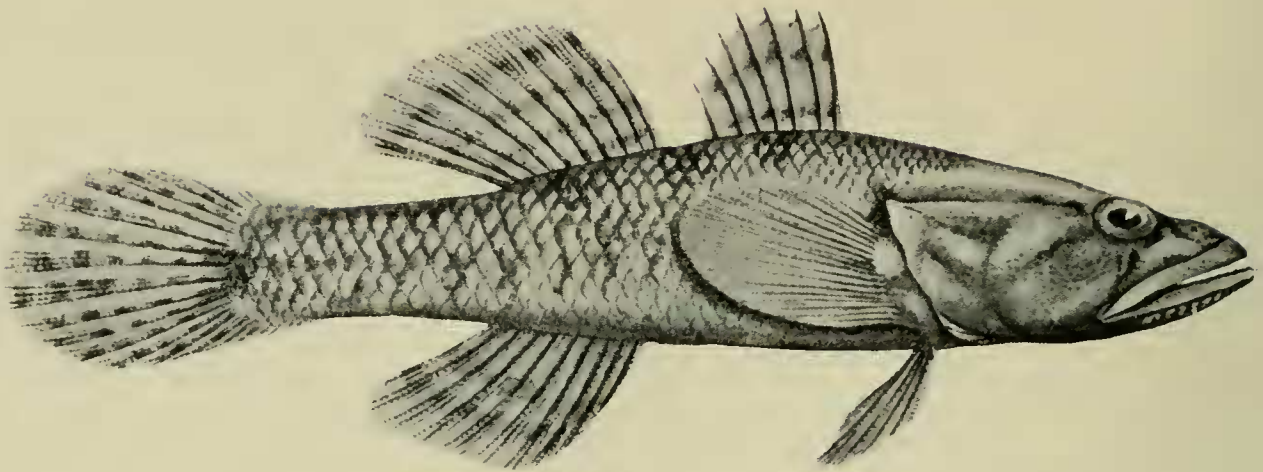


Fig. 237. *Philypnodon grandiceps*.

Not known from South Australia until this year (1921), when members of the S.A. Aquarium Society obtained examples in the River Murray billabongs.

SUB-ORDER BLENNIOIDEA.

FAMILY BLENNIIDAE.

BLENNIUS Linnaeus, 1758 (*ocellaris*).

BLENNIUS TASMANIANUS Richardson (Blenny).

Blennius tasmanianus Rich., P.Z.S., 1839, p. 99 and T.Z.S., iii, 1849, p. 129; Waite, Rec. Aust. Mus., vi, 1906, p. 205, pl. xxxvi, fig. 5.

Blennius victoriae Fowl., Proc. Acad. Nat. Sci. Phil., lix, 1907, p. 442, fig. 10.

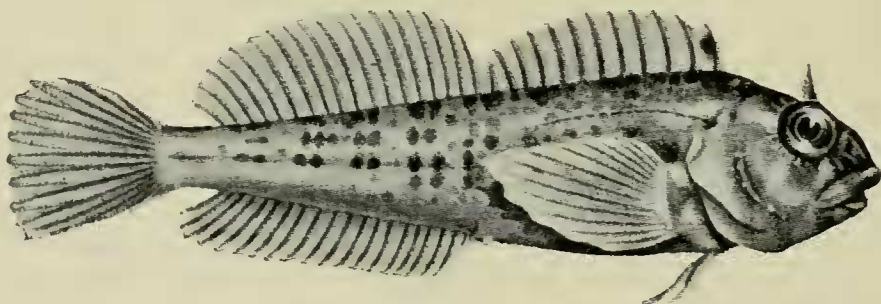


Fig. 238. *Blennius tasmanianus*.

All the Blennies are small and of no marketable value. The group is greatly in need of scientific revision.

NEOBLENNIUS Castelnau, 1875 (*fasciatus*).**NEOBLENNIUS FASCIATUS** Castelnau (Banded Blenny).

Neoblennius fasciatus Cast., Res. Fish. Aust., 1875, p. 28.

PERONEDYS Steindachner, 1884 (*anguillaris*).**PERONEDYS ANGUILLARIS** Steindachner.

Peronedys anguillaris Steind., Anz. Akad. Wiss. Wien, xx, 1883, p. 197 and Sitzb.

Akad. Wiss. Wien, lxxxviii, 1884, p. 1083; McCull. & Waite, Rec. S. Aust.

Mus., i, 1918, p. 60, pl. v, fig. 2.

Eucentronotus zietzi Ogil., P.L.S., N.S.W., xxiii, 1898, p. 294.

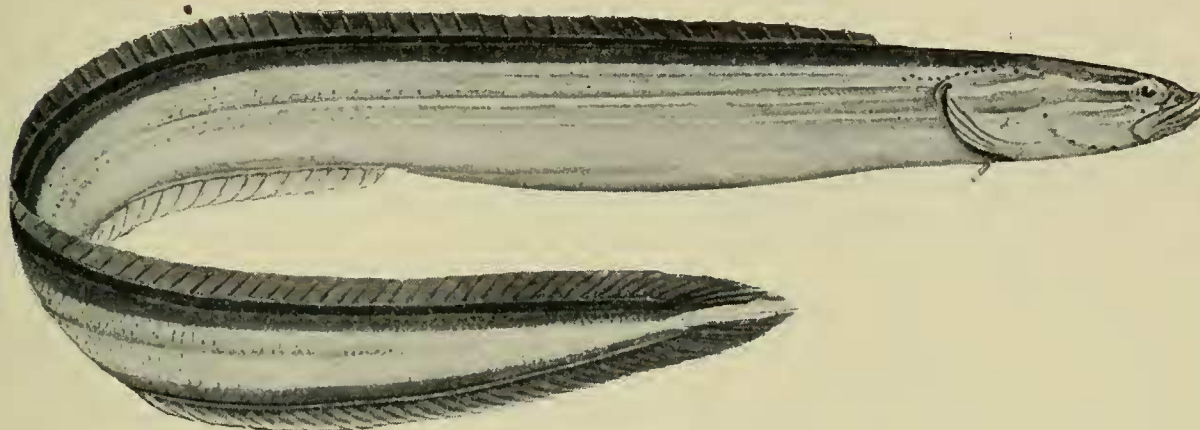


Fig. 240. *Peronedys anguillaris*.

HETEROCLINUS Castelnau, 1872 (*adelaidae*).**HETEROCLINUS ADELAIDAE** Castelnau.

Heteroclinus adelaidae Cast., P.Z.S., Vict., i, 1872, p. 247.

OPHICLINUS Castelnau, 1872 (*antarcticus*).**OPHICLINUS ANTARCTICUS** Castelnau.

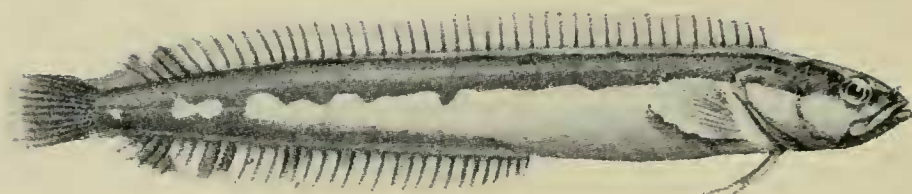
Ophiclinus antarcticus Cast., P.Z.S., Vict., i, 1872, p. 246.

Neogunellus sulcatus Cast., Res. Fish. Aust., 1875, p. 27.

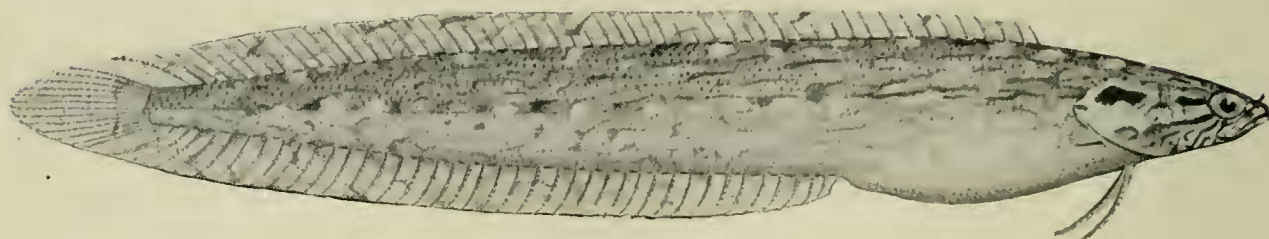
Ophiclinus sulcatus McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 55, fig. 28
(head).

OPHICLINUS GRACILIS Waite.

Ophiclinus gracilis Waite, Res. Aust. Mus., vi, 1906, p. 207, pl. xxxvi, fig. 6.

Fig. 243. *Ophioclinus gracilis*.**OPHICLINUS PARDALIS McCulloch & Waite.**

Ophioclinus pardalis McCull & Waite, Rec. S. Aust. Mus., i, 1918, p. 58, pl. iv, fig. 2.

Fig. 244. *Ophioclinus pardalis*.**OPHICLINUS HOMACANTHUS Herzenstein.**

Neogunellus homacanthus Herz., Ann. Mus. Zool., St. Petersburg., i, 1896, p. 5.

OPHICLINUS MICROCHIRUS Herzenstein.

Neogunellus microchirus Herz., Ann. Mus. Zool., St. Petersburg., i, 1896, p. 7.

CRISTICEPS Cuvier & Valenciennes, 1836 (australis).**CRISTICEPS AUSTRALIS Cuvier & Valenciennes (Weed Fish).**

Cristiceps australis Cuv. & Val., Hist. Nat. Poiss., xi, 1836, p. 402, pl. cccxxxvi;
Lucas, P.R.S., Vict. (n.s.), iii, 1891, p. 10, pl. iii, fig. 3; McCull., Rec. Aust.
Mus., vii, 1908, p. 39, pl. x, fig. 3.

Christiceps splendens Cast., P.Z.S., Vict., i, 1872, p. 244 and ii, 1873, p. 66.

Cristiceps howittii Cast., P.Z.S., Vict., ii, 1873, p. 48, 66.

Cristiceps macleayi Cast., P.L.S., N.S.W., iii, 1879, p. 385.

Cristiceps pallidus MacL., P.L.S., N.S.W., vi, 1881, p. 26.

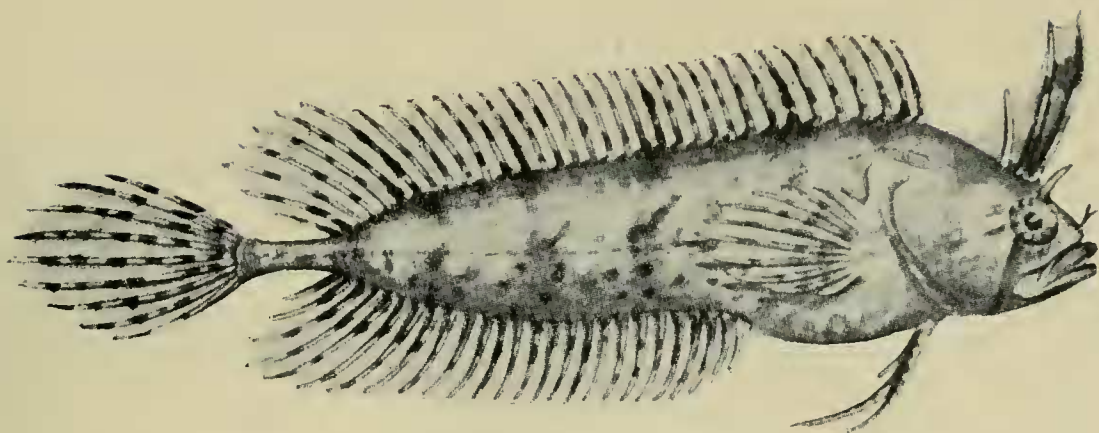


Fig. 247. *Cristiceps australis*.

CRISTICEPS TRISTIS Klunzinger.

Cristiceps tristis Klunz., Arch. f. Naturg., xxxviii, 1872, p. 31.

CLINUS Cuvier, 1817 (*superciliosus*).

CLINUS PERSPICILLATUS Cuvier & Valenciennes.

Clinus perspicillatus Cuv. & Val., Hist. Nat. Poiss., xi, 1836, p. 372; McCull., Rec. Aust. Mus., vii, 1908, p. 43, pl. xi, fig. 4.

Clinus despicillatus Rich., Zool. Journ., 1839, p. 90 and T.Z.S., iii, 1849, p. 128, pl. vi, fig. 2.

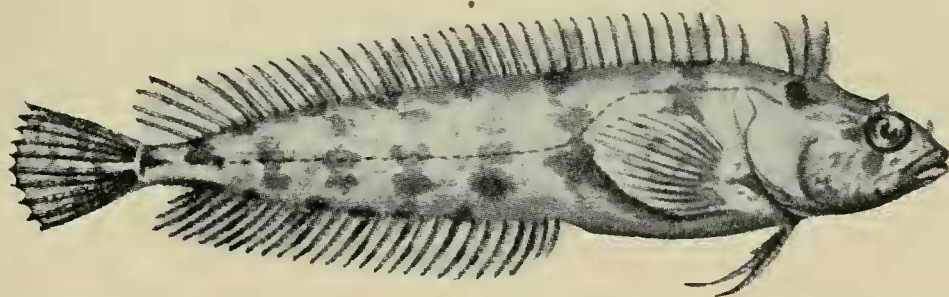


Fig. 249. *Clinus perspicillatus*.

LEPIDOBLENNIUS Steindachner, 1867 (*haplodaetylus*).

LEPIDOBLENNIUS MARMORATUS Macleay.

Tripterygium marmoratum MacL., P.L.S., N.S.W., iii, 1878, p. 34, pl. iii, fig. 2.

Lepidoblennius marmoratus McCull. & McNeill, Rec. Aust. Mus., xii, 1918, p. 24; McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 62, pl. v, fig. 3.

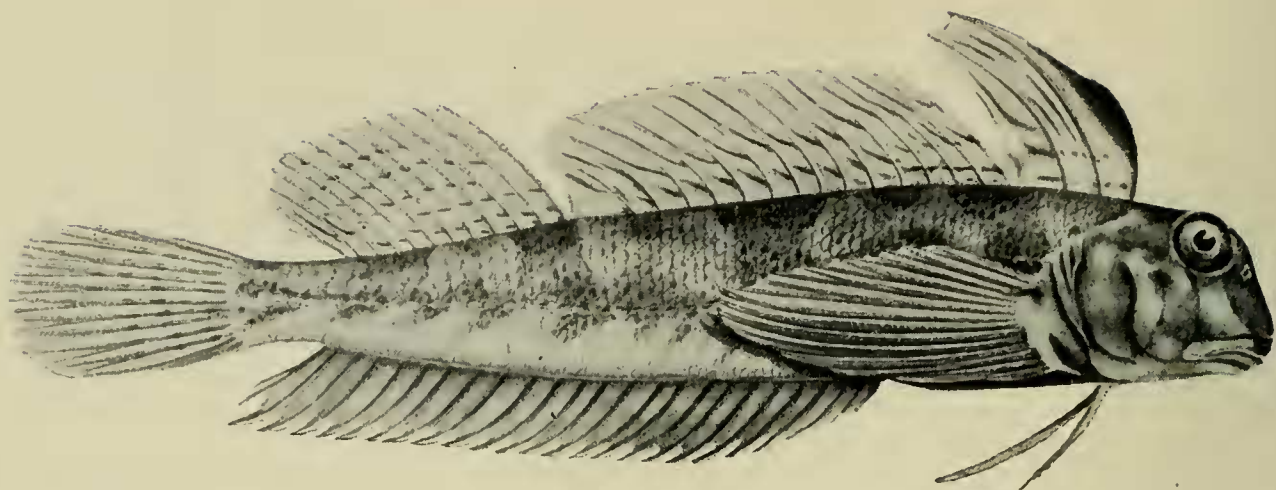


Fig. 250. *Lepidoblennius marmoratus*.

HELCOGRAMMA McCulloch & Waite, 1918 (decurrens).

HELCOGRAMMA DECURRENS McCulloch & Waite.

Helcogramma decurrens McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 52, pl. iii, fig. 2.

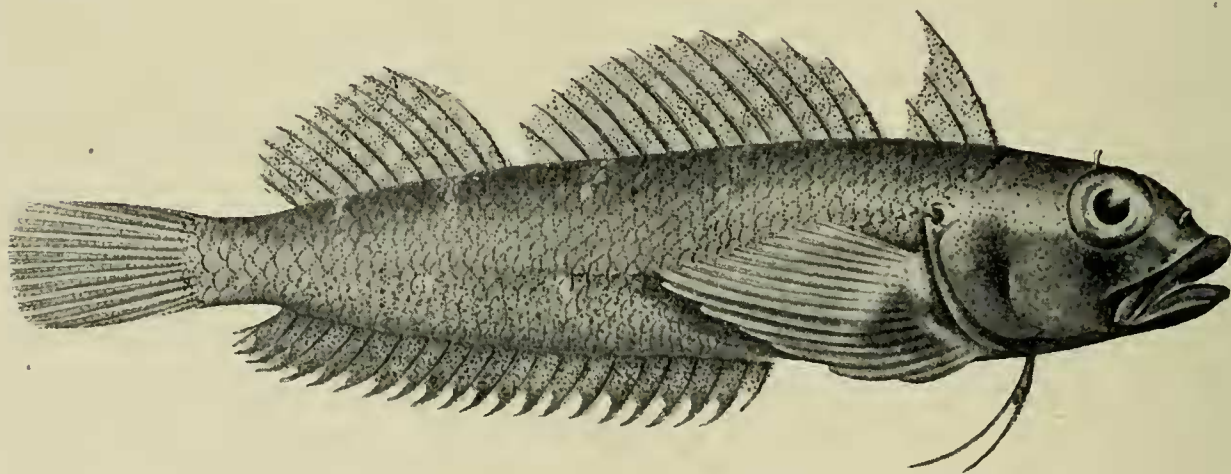


Fig. 251. *Helcogramma decurrens*.

TRIANECTES McCulloch & Waite, 1918 (bucephalus).

TRIANECTES BUCEPHALUS McCulloch & Waite.

Trianectes bucephalus McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 53, pl. iii, fig. 3.

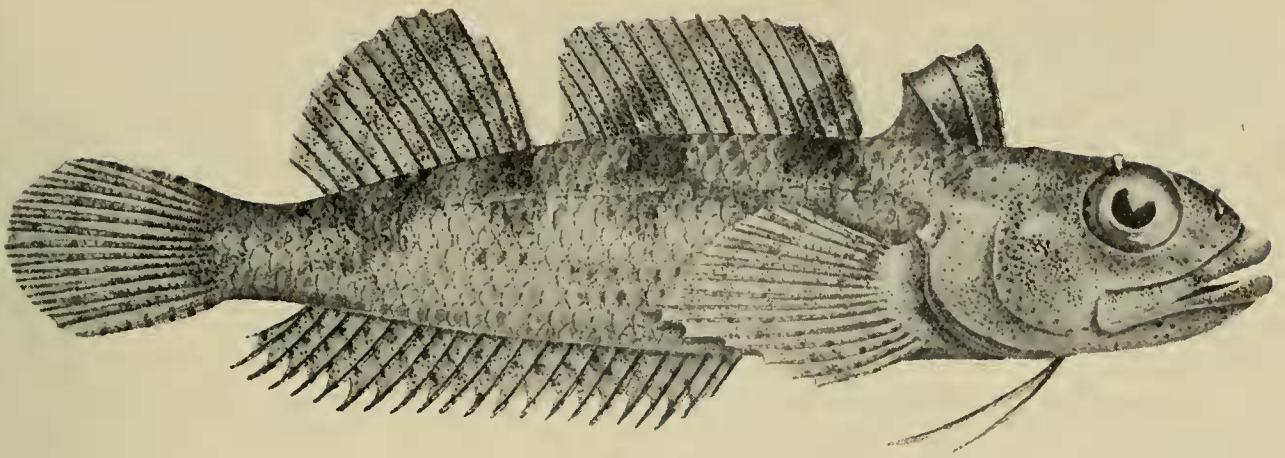


Fig. 252. *Triacetes bucephalus*.

FAMILY BROTULIDAE.

DERMATOPSIS Ogilby, 1896 (macrodon).

DERMATOPSIS MULTIRADIATUS McCulloch & Waite.

Dermatopsis multiradiatus McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 63, pl. v, fig. 4.

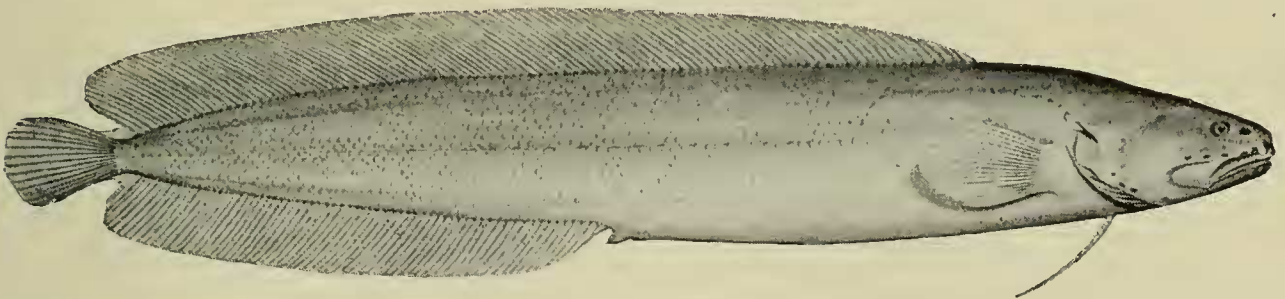


Fig. 253. *Dermatopsis multiradiatus*.

FAMILY OPHIDIIDAE.

GENYPTERUS Phillipi, 1857 (nigricans).

GENYPTERUS BLACODES Bloch & Schneider (Rockling).

Ophidium blacodes Bl. & Schn., Syst. Ichth., 1801, p. 484.

Genypterus blacodes Günth., Cat. Fish. Brit. Mus., iy, 1862, p. 379 (part);
Stead, Edib. Fish. N.S.W., 1908, p. 117, pl. lxxxi.

Genypterus tigrinus Klunz., Arch. f. Naturg., xxxviii, 1872, p. 39.

Genypterus australis Cast., P.Z.S., Viet., i, 1872, p. 164; McCoy, Prod. Zool. Viet., dec. iii, 1879, pl. xxvii, fig. 1.

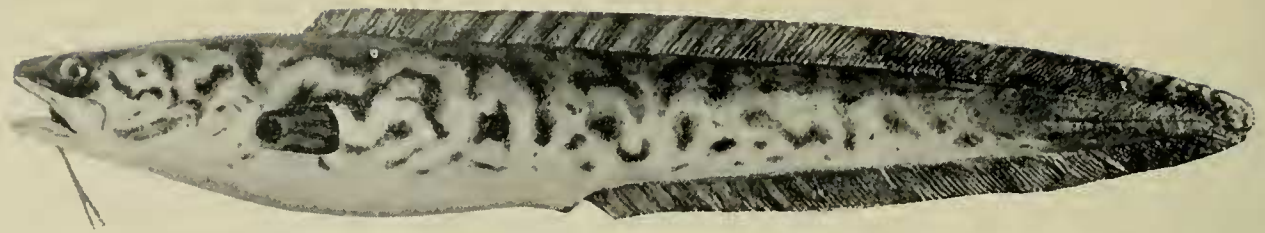


Fig. 254. *Genypterus blacodes*.

Neither of the two described species is brought to our markets in payable quantity.

GENYPTERUS MICROSTOMUS Regan.

Genypterus microstomus Regan, A.M.N.H. (7), xi, 1903, p. 599; McCull., Endeavour Res., ii, 1914, p. 159, pl. xiv, fig. 2.



Fig. 255. *Genypterus microstomus*.

ORDER HETEROSOMATA.

FAMILY BOTHIDAE.

LOPHONECTES Günther, 1880 (gallus).

LOPHONECTES GALLUS Günther (Crested Flounder).

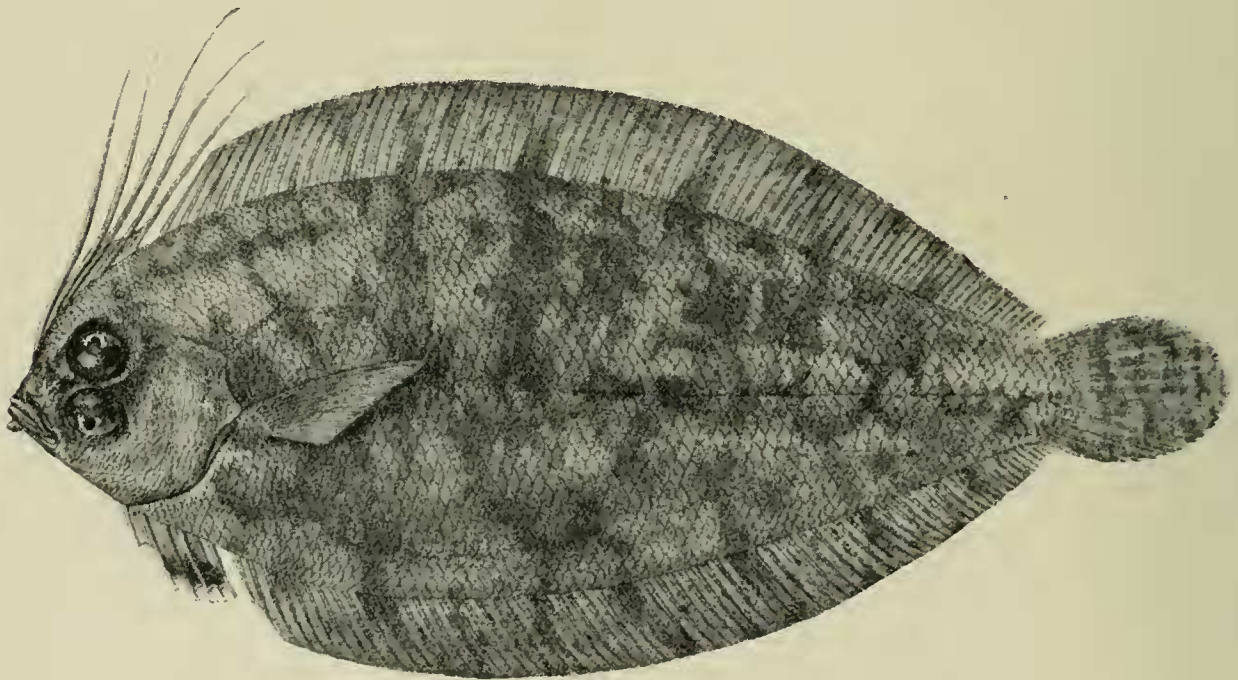


Fig. 256. *Lophonectes gallus*.

Lophonectes gullus Günth., Chall. Rep., i, 1880, p. 29, pl. xv, fig. B (reversed).
Lophorhombus cristatus MacL., P.L.S., N.S.W., vii, 1882, p. 14.

Though esteemed, as everywhere, flat-fishes are far from common in our markets and always command high prices. Scientifically, the Order needs revision.

FAMILY PLEURONECTIDAE.

RHOMBOSOLEA Günther, 1862 (monopus=plebeia).

RHOMBOSOLEA PLEBEIA Richardson (Flounder).

Rhombus plebeius Rich., in Dieffenbach, ii, 1843, p. 222.

Rhombosolea monopus Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 459.

Rhombosolea plebeia Gill, Mem. Nat. Acad. Sci., vi, 1893, p. 121; Waite, Rec. Cant. Mus., i, 1911, p. 203, pl. xxxv.

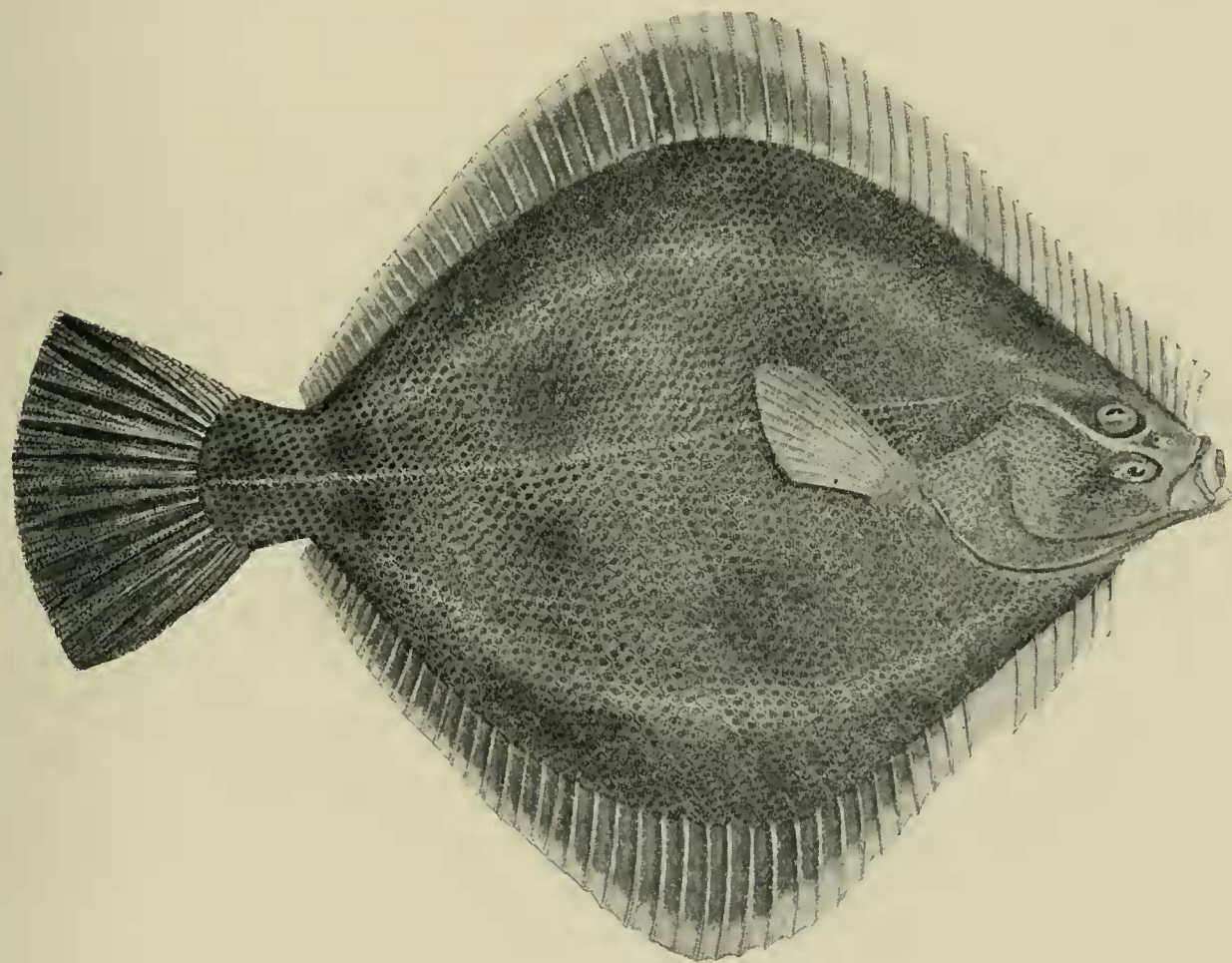


Fig. 257. *Rhombosolea plebeia*.

RHOMBOSOLEA VICTORIAE (Melbourne Flounder).

Pleuronectes? victoriae Cast., P.Z.S., Vict., i, 1872, p. 168.

AMMOTRETIS Günther, 1862 (rostratus).**AMMOTRETIS ROSTRATUS** Günther (Long-snouted Flounder).

Ammotretis rostratus Günth., Cat. Fish. Brit. Mus., iv, 1862, p. 458; Stead, Edib. Fish. N.S.W., 1908, p. 103, pl. lxx.

Ammotretis adpersus Kner, Reise Novara, Fisch., 1868, p. 286, pl. xiii, fig. 4.

Rhombosolea bassensis Cast., P.Z.S., Vict., i, 1872, p. 167.

Ammotretis zonatus Mael., P.L.S., N.S.W., vii, 1882, p. 367.

Ammotretis macleayi Ogil., P.L.S., N.S.W., x, 1885, p. 121, 122.

Peltorhamphus bassensis Waite, Rec. Aust. Mus., vi, 1906, p. 198, pl. xxxiv.

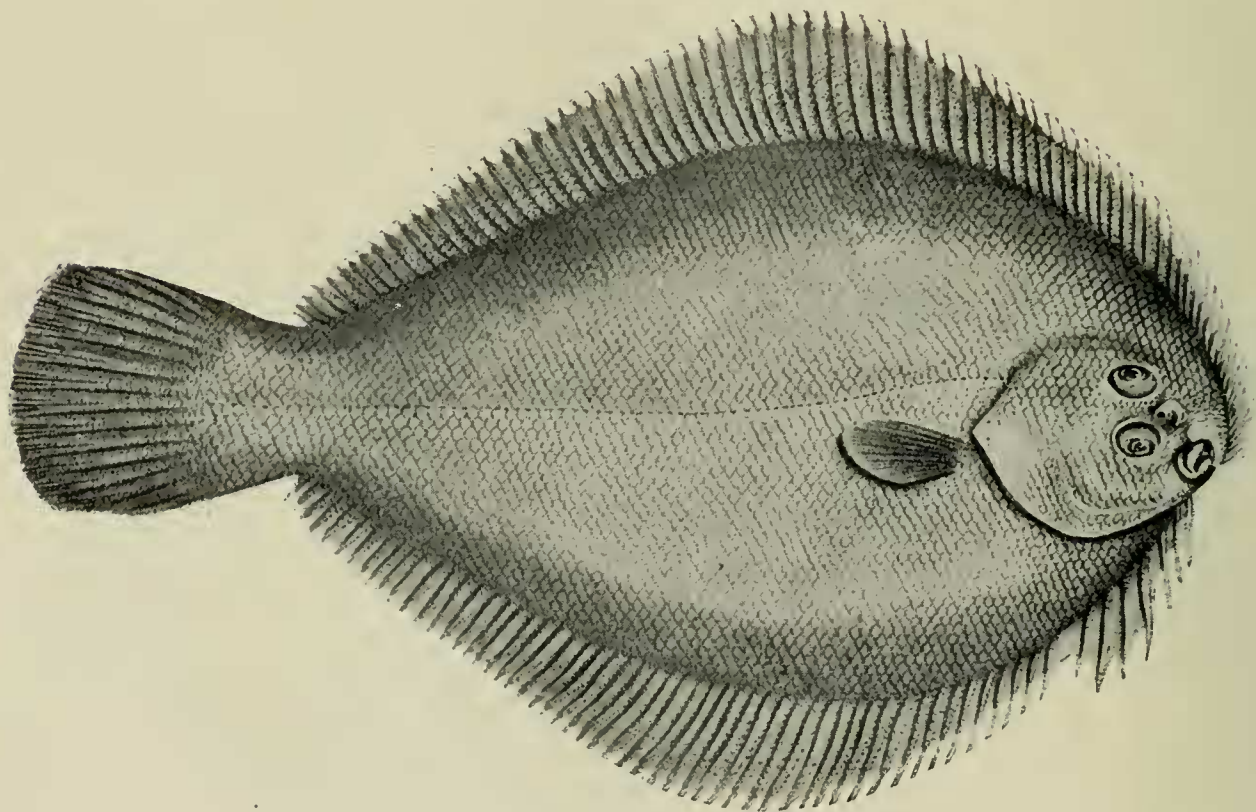


Fig. 259. *Ammotretis rostratus*.

AMMOTRETIS ELONGATUS McCulloch.

Ammotretis elongatus McCull., Endeavour Res., ii, 1914, p. 123, pl. xxvii.

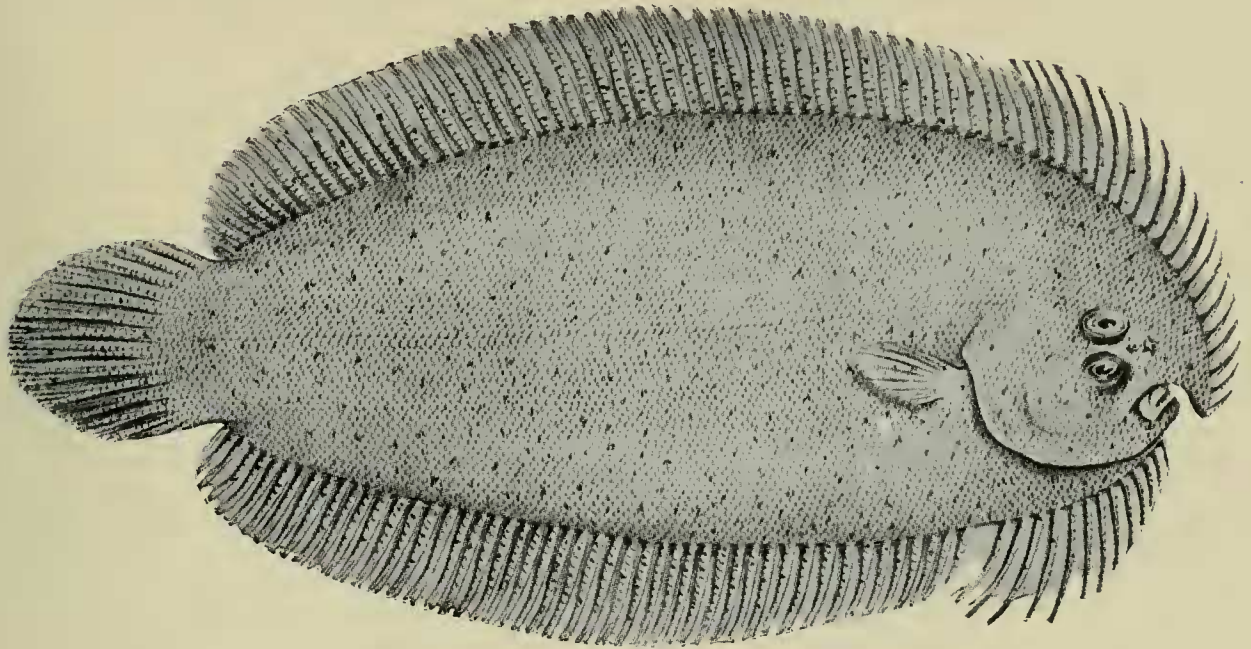


Fig. 260. *Ammotretis elongatus*.

AMMOTRETIS TUDORI McCulloch.

Ammotretis tudori McCull., Endeavour Res., ii, 1914, p. 124, pl. xxvi.

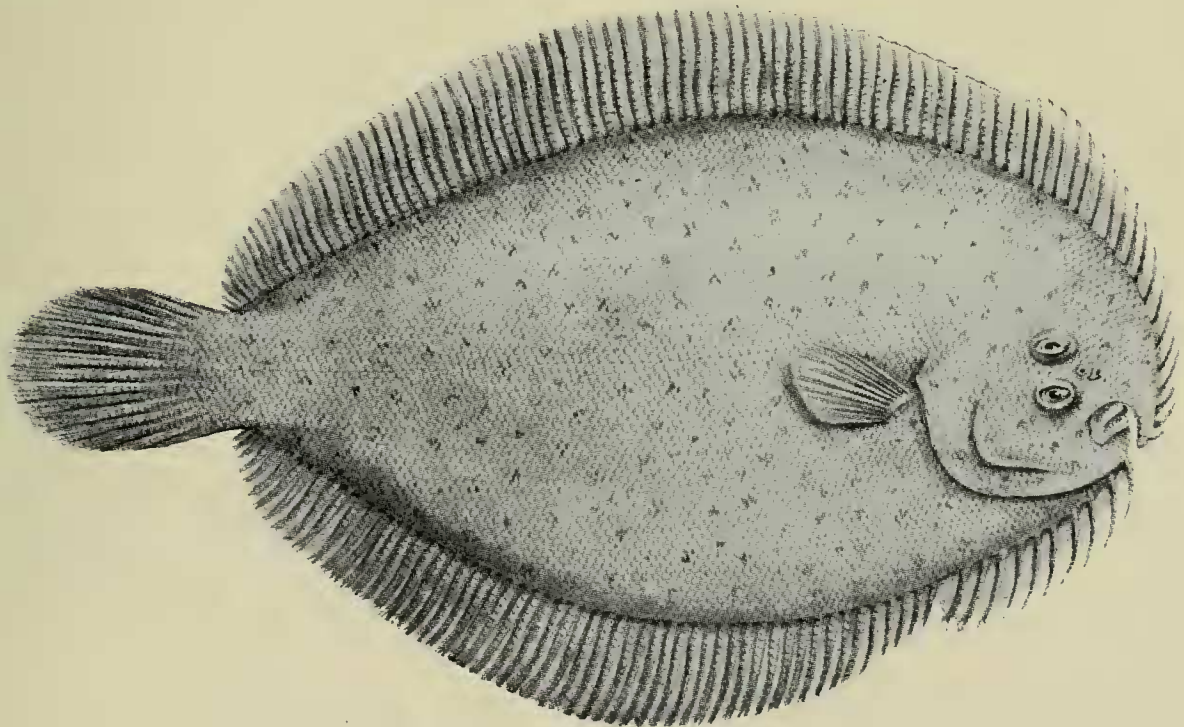
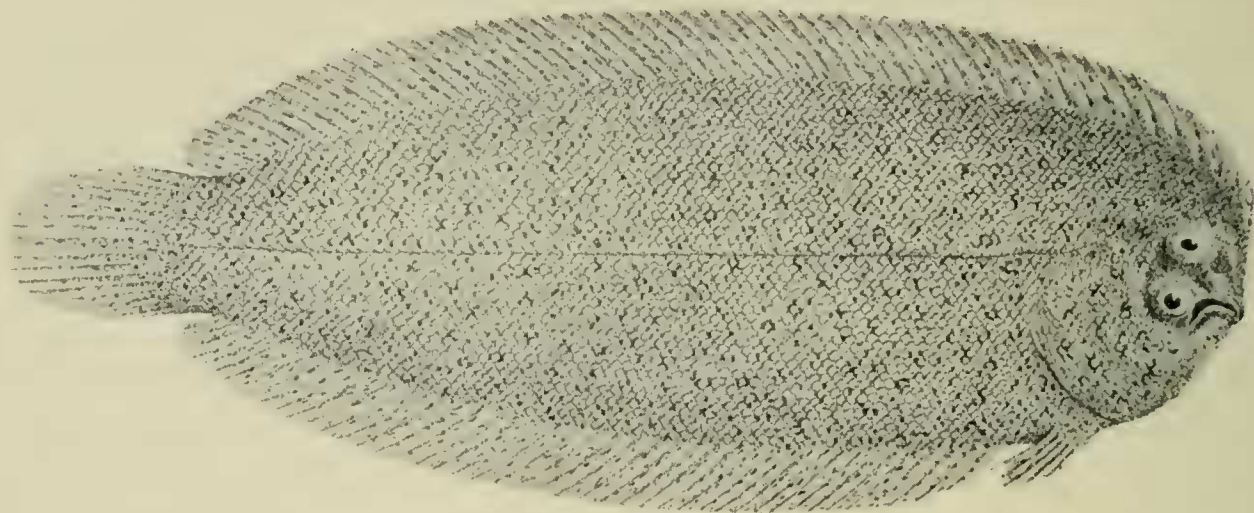


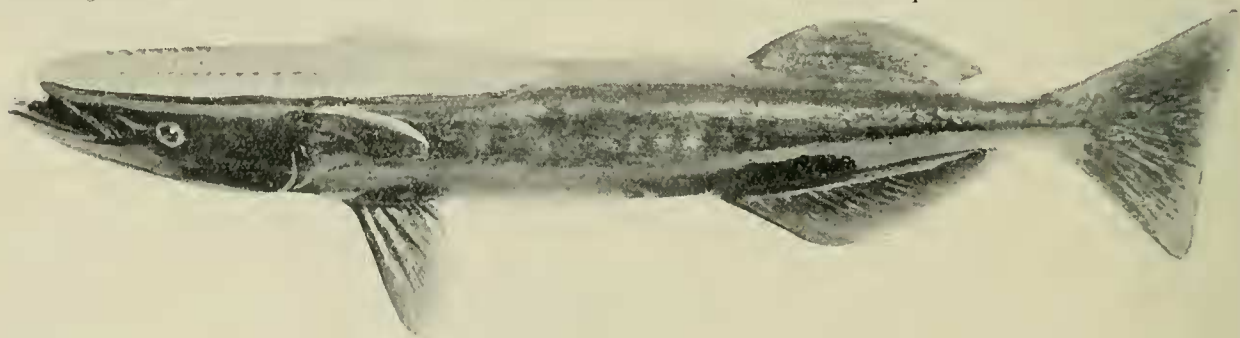
Fig. 261. *Ammotretis tudori*.

FAMILY SOLEIDAE.

ASERAGGODES Kaup, 1858 (*guttulatus*).**ASERAGGODES HAACKEANA** Steindachner (Sole).*Solea (Achirus) haackeana* Steind., Anz. Akad. Wiss. Wien, xx, 1883, p. 195 and Sitzb. Akad. Wiss. Wien, lxxxviii, 1884, p. 1104, pl. i, fig. 3.*Solea (Aseraggodes) textilis* Rams. & Ogil., P.L.S., N.S.W. (2), i, 1886, p. 6.*Aseraggodes haackeana* McCull., Mem. Qld. Mus., v, 1916, p. 59.Fig. 262. *Aseraggodes haackeana*.

ORDER DISCOCEPHALI.

FAMILY ECHENEIDIDAE.

ECHENEIS Linnaeus, 1758 (*naucrates*).**ECHENEIS AUSTRALIS** Bennett (Sucker Fish).*Echeneis australis* Benn., Narr. Whaling Voy., ii, 1840, p. 273; Waite, T.R.S., S.A., xxxix, 1915, p. 340, pl. xi (disk).*Echeneis scutata* Günth., A.M.N.H. (3), v, 1860, p. 401, pl. x, fig. B.*Remilegia australis* Gill, Proc. Acad. Nat. Sci. Phil., 1864, p. 61.Fig. 263. *Echeneis australis*.

The only example recorded from our waters accompanied a Norwegian vessel into dock, probably from the Indian Ocean.

Sucker fishes attach themselves to ships, whales, sharks, and other fishes by means of the sucking disk on the top of the head.

ECHENEIS REMORA Linnaeus (Remora).

Echeneis remora Linn., Syst. Nat. (ed. x), 1758, p. 260; Day, Fish. Gt. Brit. and Irel., i, 1881, p. 108, pl. xxxix, fig. 2.

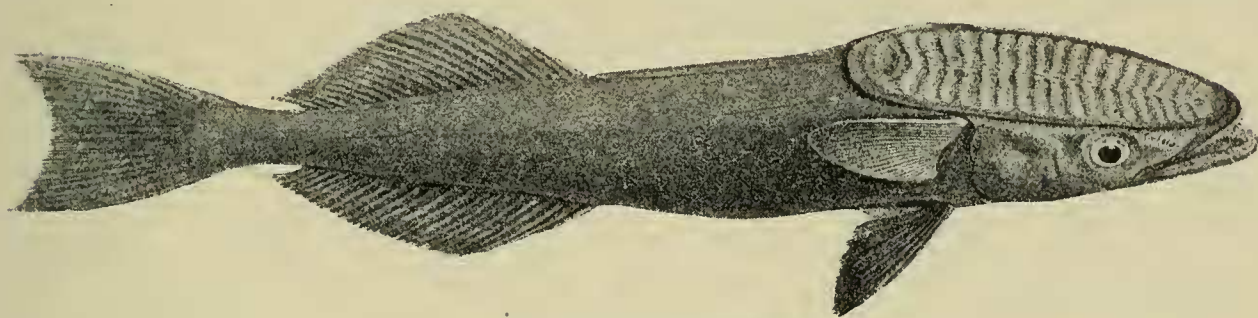


Fig. 264. *Echeneis remora*.

Under the title "The Myth of the Ship-holder," Mr. E. W. Gudger⁽¹⁸⁾ has brought together the legends of the habits attributed to this curious fish.

ORDER SCLEROPAREI.

FAMILY SCORPAENIDAE.

SCORPAENA Linnaeus, 1758 (porcus).

SCORPAENA CRUENTA Richardson (Red Rock-cod).

Scorpaena cruenta Rich., A.M.N.H., ix, 1842, p. 217; Ogil., Edib. Fish. N.S.W., 1893, p. 63, pl. xx; Stead, Fish. Aust., 1906, p. 193, pl. vii and Edib. Fish. N.S.W., 1908, p. 108, pl. lxxv.

Scorpaena ergastulorum Rich., *loc. cit.*

Scorpaena militaris Rich., Zool. Ereb. & Terr., 1845, p. 22, pl. xiv, fig. 1, 2.

(18) Gudger, Ann. Mag. Nat. Hist. (9), ii, 1918, p. 271, pl. xv-xvii and fig. 10 and iv, 1919, p. 17.

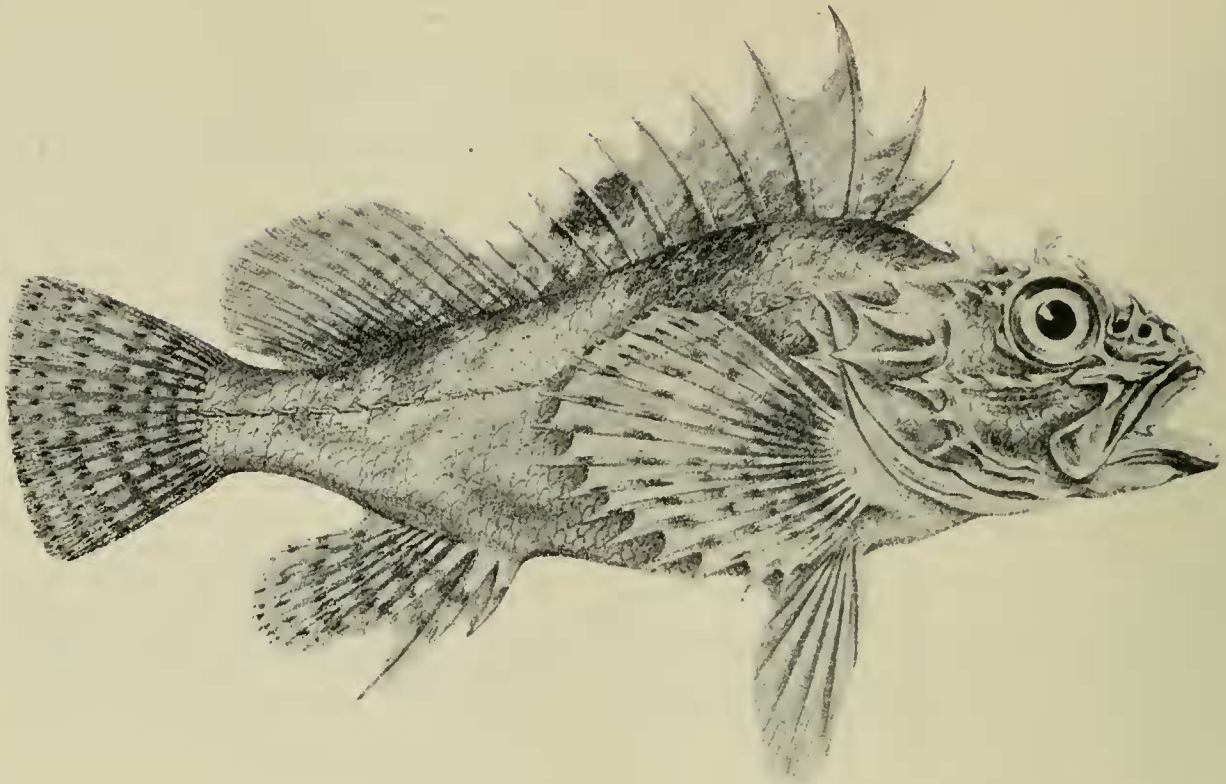


Fig. 265. *Scorpaena cruenta*.

Well known to rock anglers, its capacious mouth accommodating very large baits. The flesh is white and tender.

HELICOLENUS Goode & Bean, 1895 (dactylopterus).

HELICOLENUS PERCOIDES Richardson (Red Gurnard-perch).

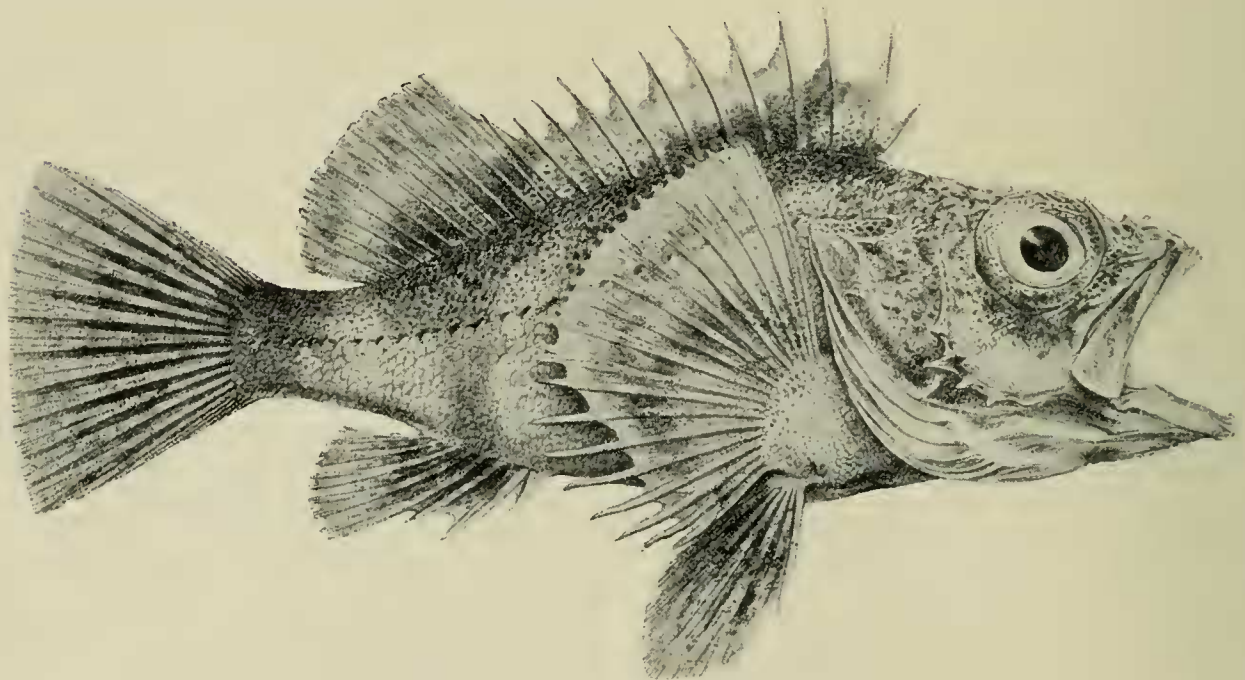


Fig. 266. *Helicolenus percoides*.

Sebastes percooides Rich., A.M.N.H., ix, 1842, p. 384 and Zool. Ereb. & Terr., 1845, p. 23, pl. xv, fig. 1, 2; McCoy, Prod. Zool. Viet., dec. iv, 1879, pl. xxxiii; Ten. Woods, Fish., N.S.W., 1883, pl. xiv; Ogil., Edib. Fish. N.S.W., 1893, p. 61.

Sebastes alporti Cast., P.Z.S., Viet., ii, 1873, p. 40.

Scorpaena barathri Hect., T.N.Z.I., vii, 1875, p. 245, pl. x, fig. 15a.

Sebastapistes percooides Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 46.

Helicolenus percooides McCull., Rec. Aust. Mus., vi, 1907, p. 350.

A fair food fish, but not regarded as equal to the preceding species.

NEOSEBASTES Guichenot, 1867 (*scorpaenoides*).

NEOSEBASTES SCORPAENOIDES Guichenot (Gurnard-perch).

Neosebastes scorpaenoides Guich., Mem. Soc. Sci. Cherbourg, xiii, 1867, p. 85; McCoy, Prod. Zool. Viet., dec. xx, 1890, pl. cxviii.

Sebastes scorpaenoides Klunz., Sitzb. Akad. Wiss. Wien, lxxx, 1880, p. 365, pl. v, fig. 1 (head).

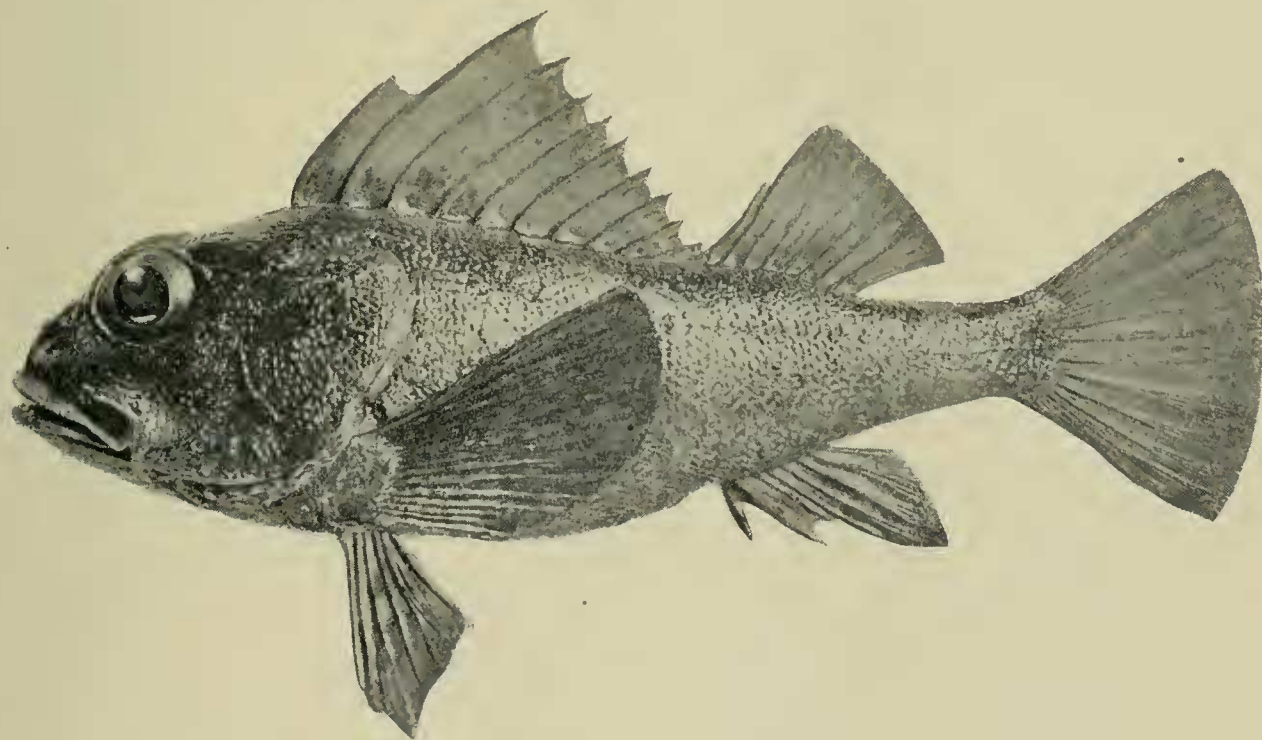


Fig. 267 *Neosebastes scorpaenoides*.

A winter market fish.

NEOSEBASTES PANDUS Richardson (Gurnard-perch).

Scorpaena panda Rich., A.M.N.H., ix, 1842, p. 216.

Sebastes pandus Rich., Zool. Ereth. & Terr., 1846, p. 70, pl. xli, fig. 3, 4.

Neosebastes panda Guich., Mem. Soc. Sci. Cherbourg, xiii, 1867, p. (86?).

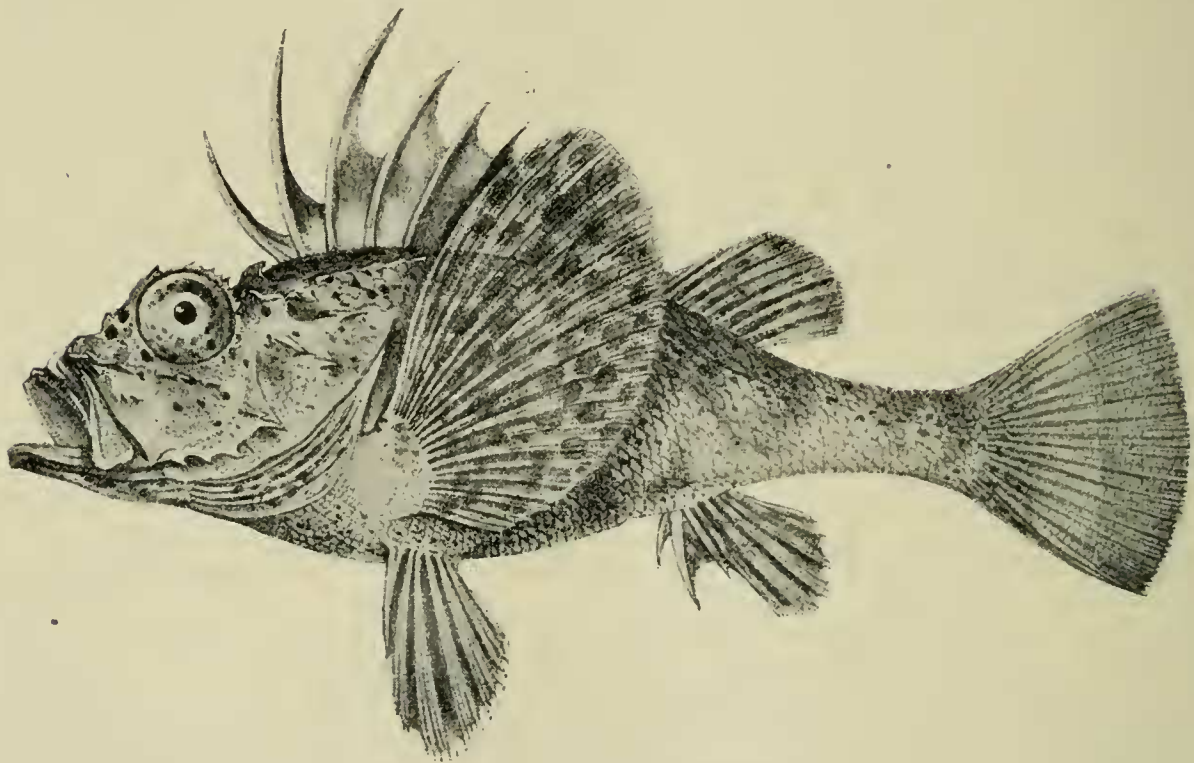


Fig. 268. *Neosebastes pandus*.

Not so well known here as in Victoria, where it is a common market fish.

NEOSEBASTES NIGROPUNCTATUS McCulloch (Black-spotted Gurnard-perch).

Neosebastes nigropunctatus McCull., Endeavour Res., iii, 1915, p. 157, pl. xxx.

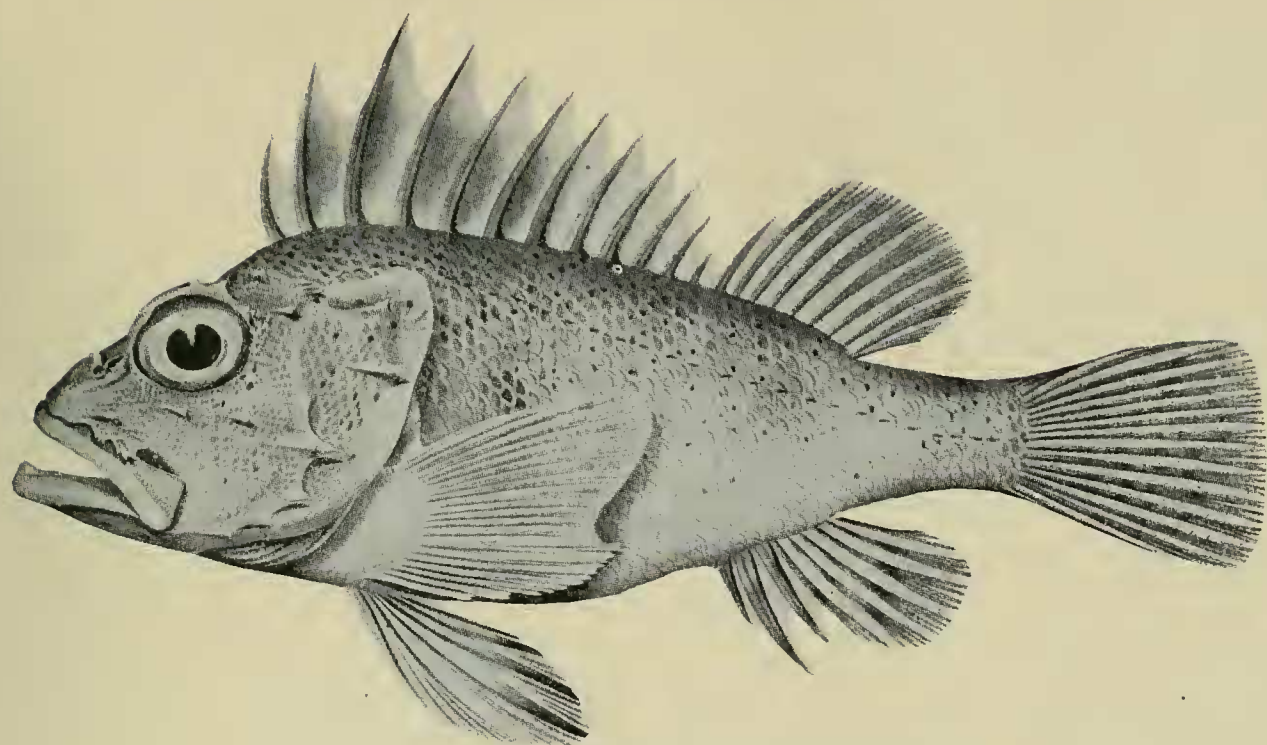


Fig. 269. *Neosebastes nigropunctatus*.

NEOSEBASTES THETIDIS Waite (Thetis Fish).

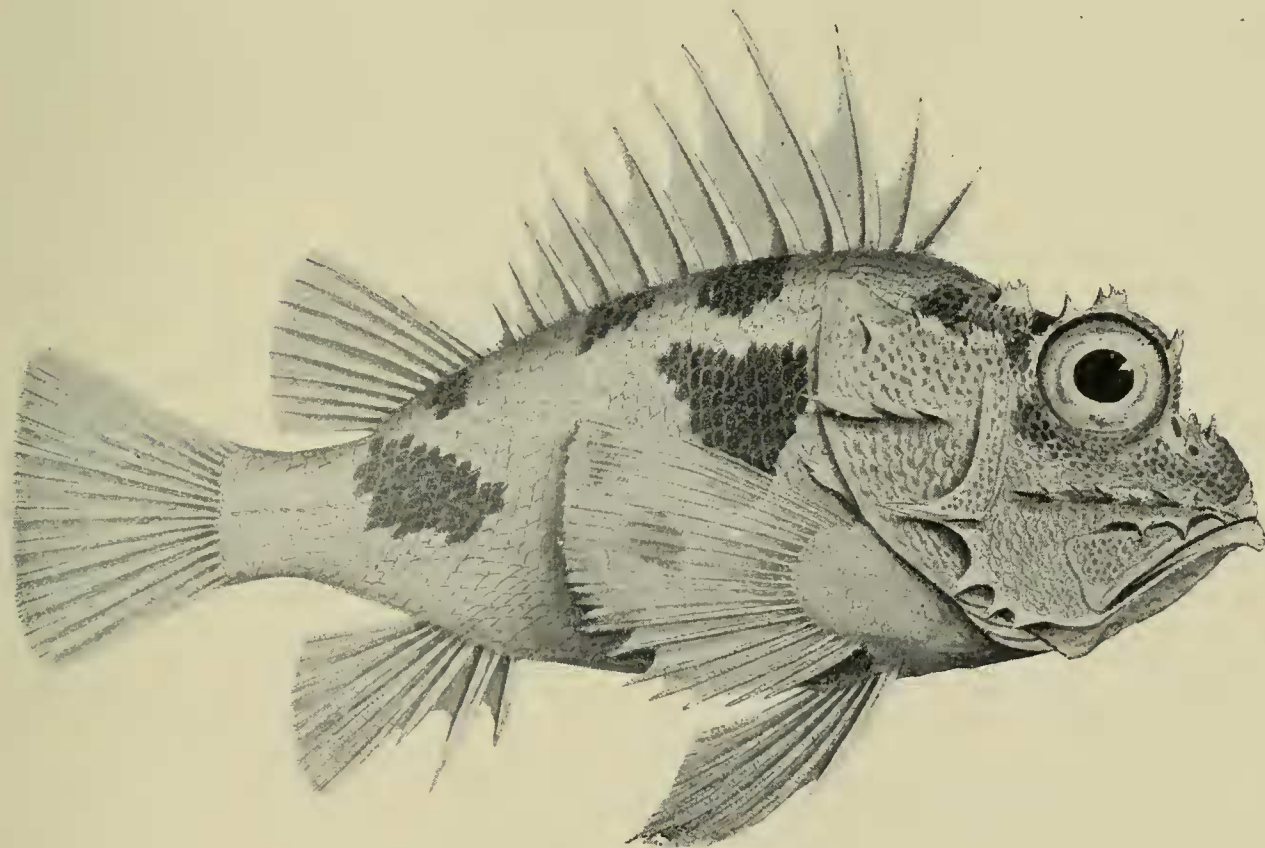


Fig. 270. *Neosebastes thetidis*.

Sebastes thetidis Waite, Mem. Aust. Mus., iv, 1899, p. 100, pl. xx.

Sebastodes thetidis Waite, Mem. N.S.W. Nat. Club., ii, 1904, p. 47.

Neosebastes thetidis McCull., Endeavour Res., iii, 1915, p. 154.

The name of this fish is associated with the first trawling venture of the N.S. Wales Government, conducted in 1898; H.M.C.S. "Thetis" being employed. The writer of this catalogue was in charge of the Zoological operations. The Thetis Fish has been obtained at Glenelg, S.A.

NEOSEBASTES PANTICA McCulloch & Waite.

Neosebastes pantica McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 64, pl. iv, fig. 1.

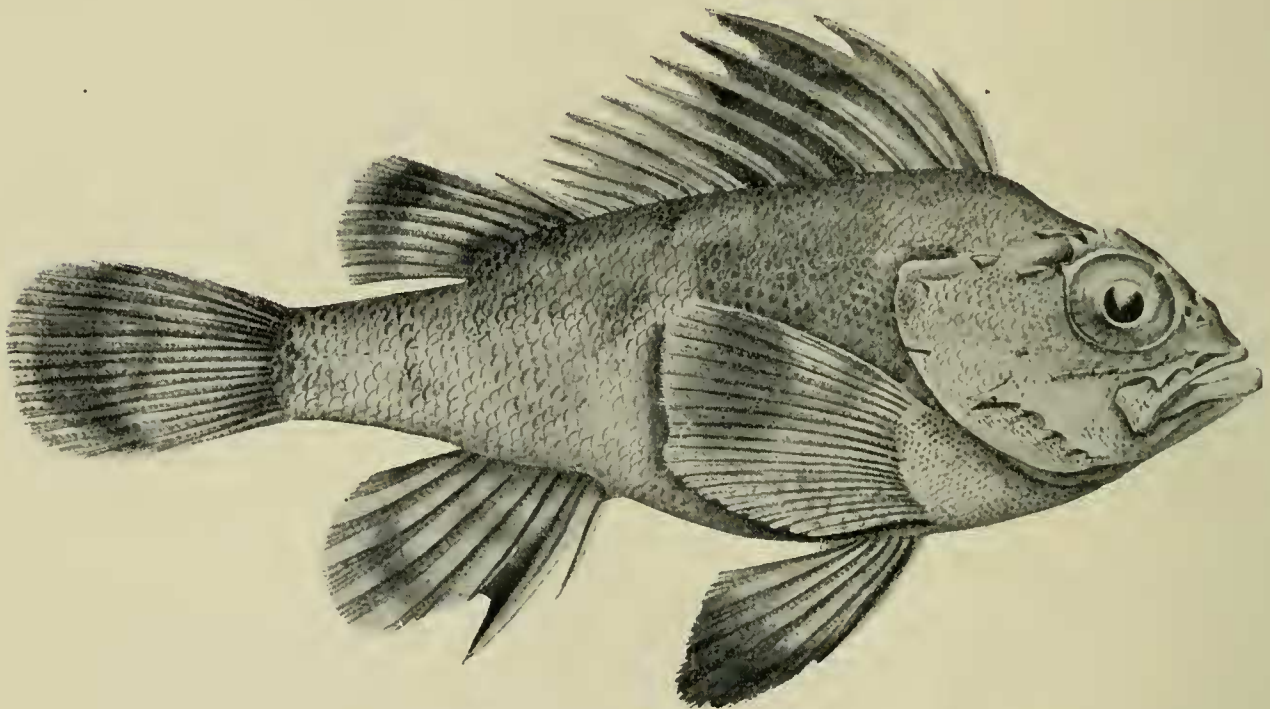


Fig. 271. *Neosebastes pantica*.

GYMNAPISTES Swainson, 1839 (marmoratus).

GYMNAPISTES MARMORATUS Cuvier & Valenciennes (Cobbler).

Apistus marmoratus Cuv. & Val., Hist. Nat. Poiss., iv, 1829, p. 416; Valenc. in Cuv., Règ. Anim., Ill. Poiss., 1839, pl. xxiv, fig. 3.

Apistes marmoratus Cuv. (Griff.), Anim. King., x, 1834, pl. xxii, fig. 3.

Gymnapistes marmoratus Swains., Nat. Hist. Fish., ii, 1839, p. 266.

Pentaroge marmorata Günth., Cat. Fish. Brit. Mus., ii, 1860, p. 132; McCull., Endeavour Res., iii, 1915, p. 161, pl. xxxvi, fig. 2.

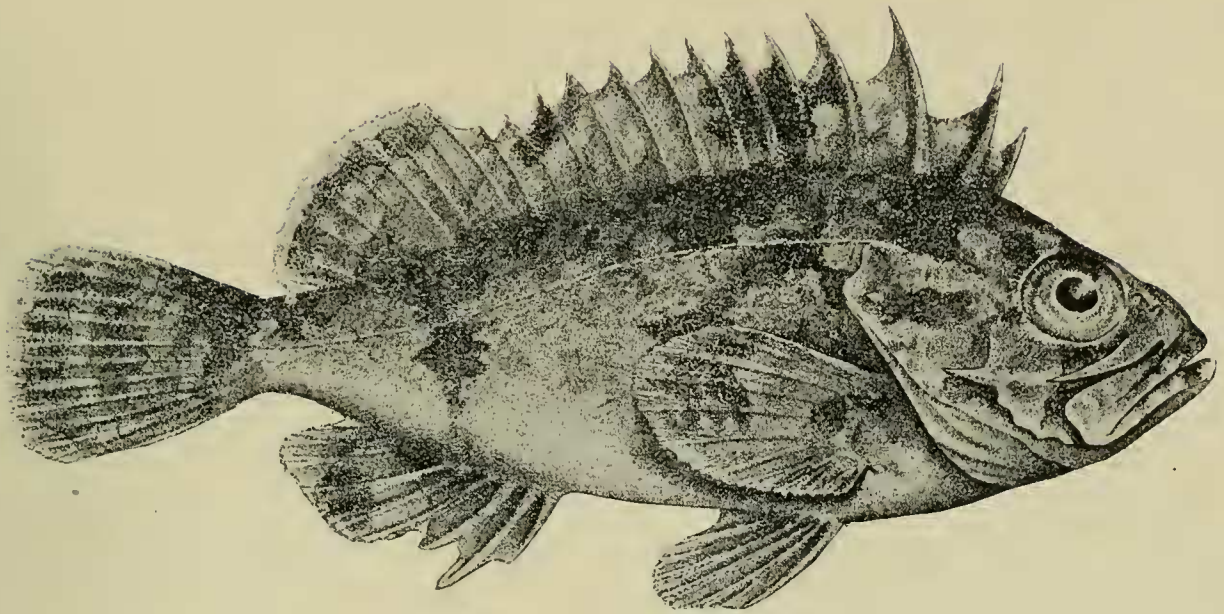


Fig. 272. *Gymnapistes marmoratus*.

Of no commercial value; known to every boy on the coast, and handled with caution on account of its venomous spines.

GLYPTAUCHEN Günther, 1860 (panduratus).

GLYPTAUCHEN PANDURATUS Richardson (Saddle-head).

Apistes panduratus Rich., P.Z.S., 1850, p. 58, pl. i, fig. 3, 4.

Glyptauchen panduratus Günth., Cat. Fish. Brit. Mus., ii, 1860, p. 121.

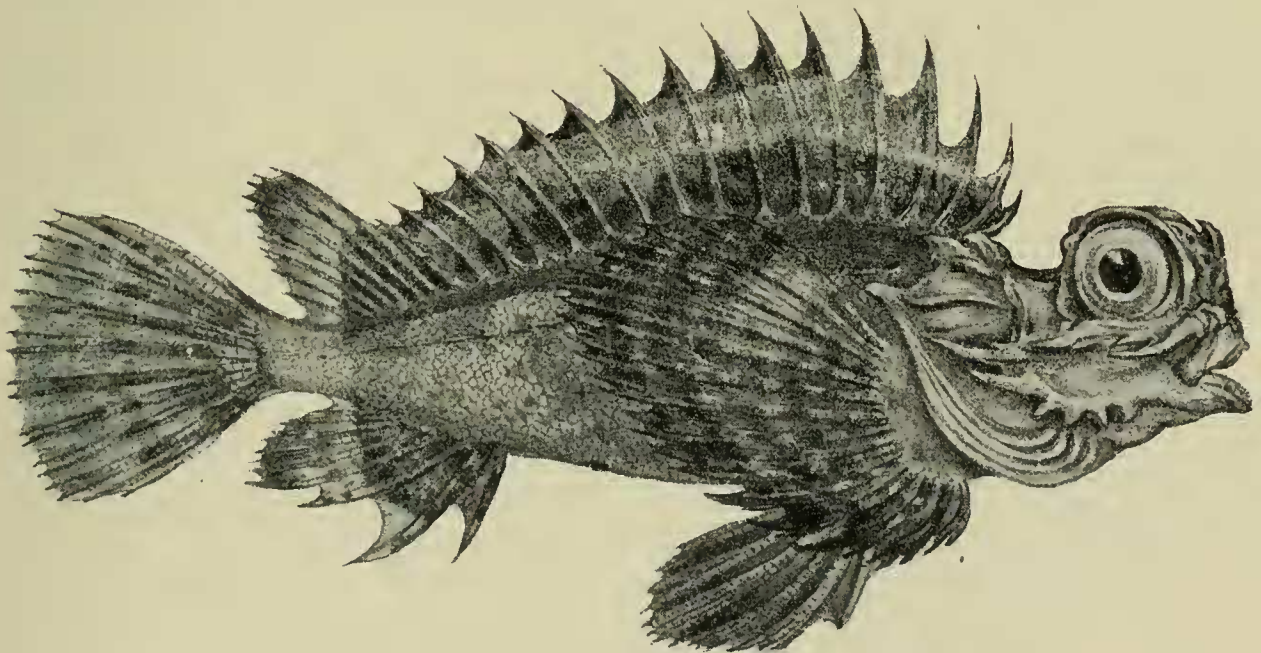
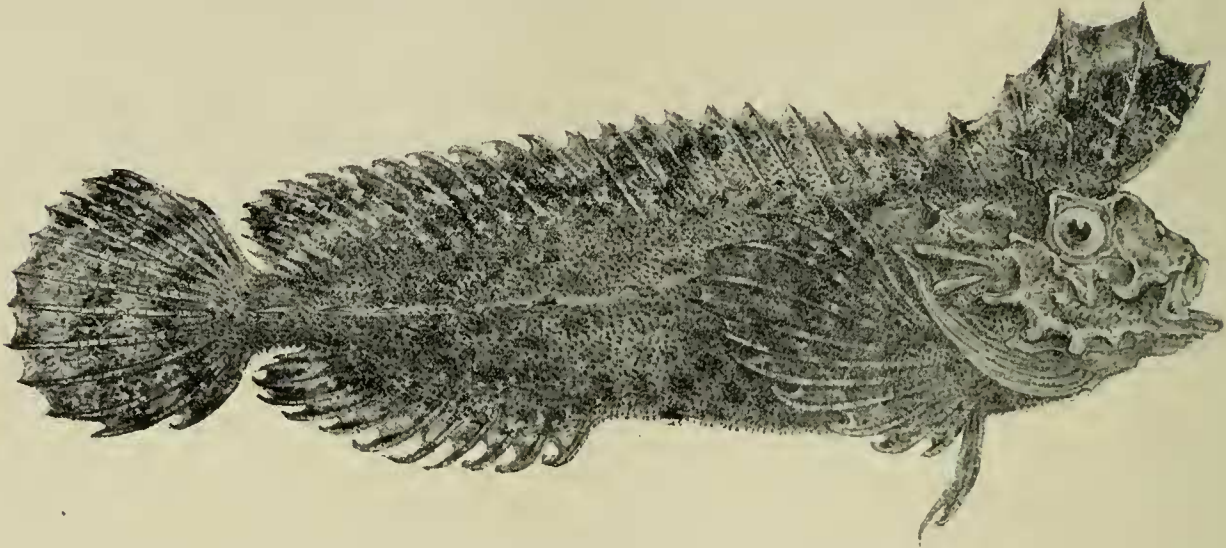


Fig. 273. *Glyptauchen panduratus*.

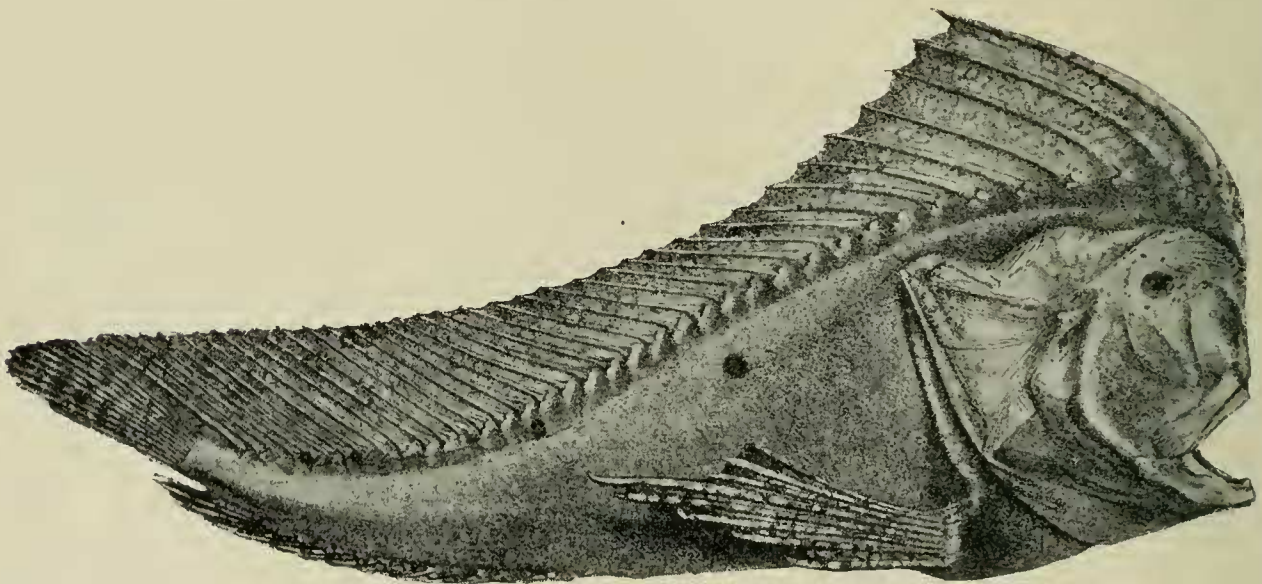
The Family *Scorpaenidae* furnishes some bizarre forms, of which this is one.

FAMILY APLOACTIDAE.

APLOACTIS Schlegel, 1843 (*aspera*).**APLOACTIS MILESII** Richardson (Velvet-fish).*Aploactis milesii* Rich., P.Z.S., 1850, p. 60, pl. i, fig. 1, 2.*Aploactisoma schomburgkii* Cast., P.Z.S., Viet., i, 1872, p. 244 and ii, 1873, p. 64.Fig. 274. *Aploactis milesii*.

The name Velvet-fish is also bestowed on *Gnathanaecanthus*, to which it is more applicable.

FAMILY PATAECIDAE.

PATAECUS Richardson, 1844 (*fronto*).**PATAECUS FRONTO** Richardson (Forehead Fish).Fig. 275. *Pataecus fronto*.

Pataecus fronto Rich., A.M.N.H., xiv, 1844, p. 280 and Zool. Ereb. & Terr., 1845, p. 20, pl. xiii, fig. 1, 2.

Pataecus subocellatus Günth., P.Z.S., 1871, p. 665, pl. Ixiv.

For obvious reasons this fish has also received the book name of Red Indian Fish.

PATAECUS MACULATUS Günther (Warty-fish).

Pataecus maculatus Günth., Cat. Fish. Brit. Mus., iii, 1861, p. 292; Waite, Rec. Aust. Mus., vi, 1905, p. 75, pl. xv.

Pataecus armatus Johnston, P.R.S., Tasm., 1891, p. 33.



Fig. 276. *Pataecus maculatus*.

The members of the Family *Pataecidae* are small and of no value.

PATAECUS VINCENTII Steindachner.

Pataecus vincentii Steind., Anz. Akad. Wiss. Wien, xx, 1883, p. 195 and Sitzb. Akad. Wiss. Wien, lxxxviii, 1884, p. 1085, pl. vii, fig. 2.

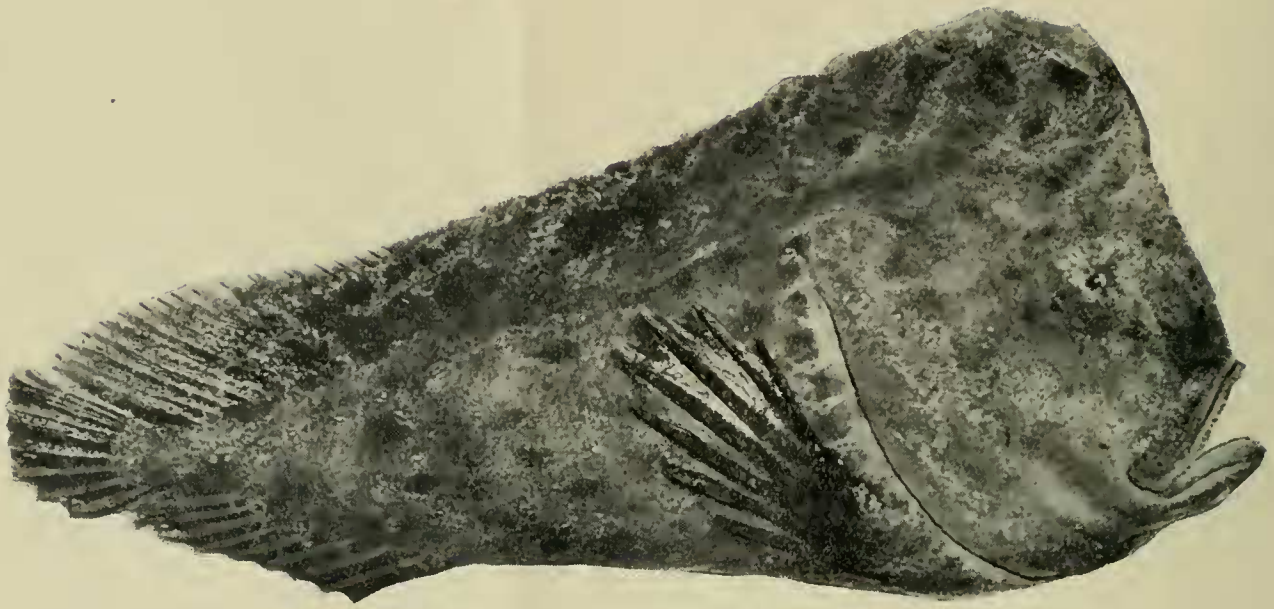


Fig. 277. *Pataecus vincentii*.

The specimen figured is the only adult example so far recorded: it was recently obtained at Glenelg after a severe storm.

NEOPATAECUS Steindachner, 1883 (maculatus=waterhousii).

NEOPATAECUS WATERHOUSII Castelnau.

Pataecus waterhousii Cast., P.Z.S., Viet., i, 1872, p. 244.

Neopataecus maculatus Steind., Sitzb. Akad. Wiss. Wien, lxxxviii, 1884, p. 1087, pl. vii, fig. 3 (not Günth.).

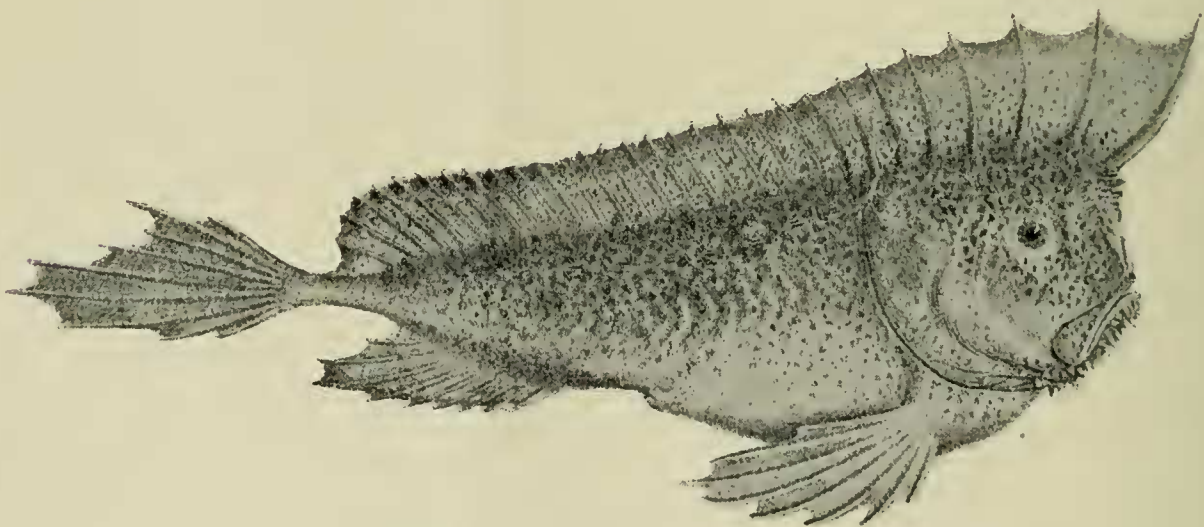
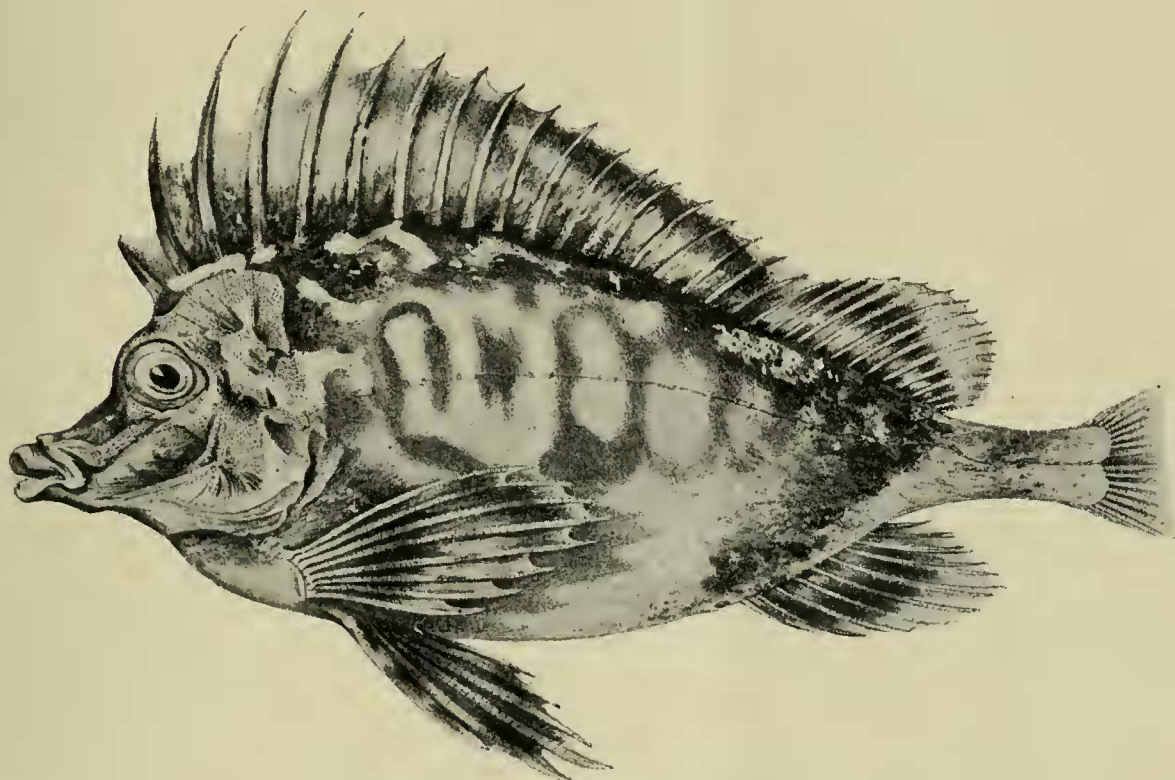


Fig. 278. *Neopataecus waterhousii*.

Readily distinguished from members of the allied genus by the separate tail fin.

FAMILY CONGIOPIDAE.

CONGIOPUS Perry, 1811 (percatus).**CONGIOPUS LEUCOPAECILUS** Richardson (Pigfish).*Agriopus leucopaeccilus* Rich., Zool. Ereb. & Terr., 1846, p. 60, pl. xxxvii, fig. 4, 5.*Congiopodus leucopaeccilus* Gill, Mem. Nat. Acad. Sci. Wash., vi, 1893, p. 118.Fig. 279. *Congiopus leucopaeccilus*.

FAMILY GNATHANACANTHIDAE.

GNATHANACANTHUS Bleeker, 1855 (*goetzeei*).**GNATHANACANTHUS GOETZEEI** Bleeker (Velvet-fish).*Gnathanacanthus goetzeei* Bleek., Verh. Akad. Wetens. Amsterd., ii, 1855, p. 41, fig. 1.*Holorenus cutaneus* Günth., A.M.N.H. (4), xvii, 1876, p. 393.*Beridia flava* Cast., P.L.S., N.S.W., ii, 1878, p. 229, pl. ii.*Gnathanacanthus goetzi* Gill, P.U.S. Nat. Mus., xiv, 1891, p. 701, fig.

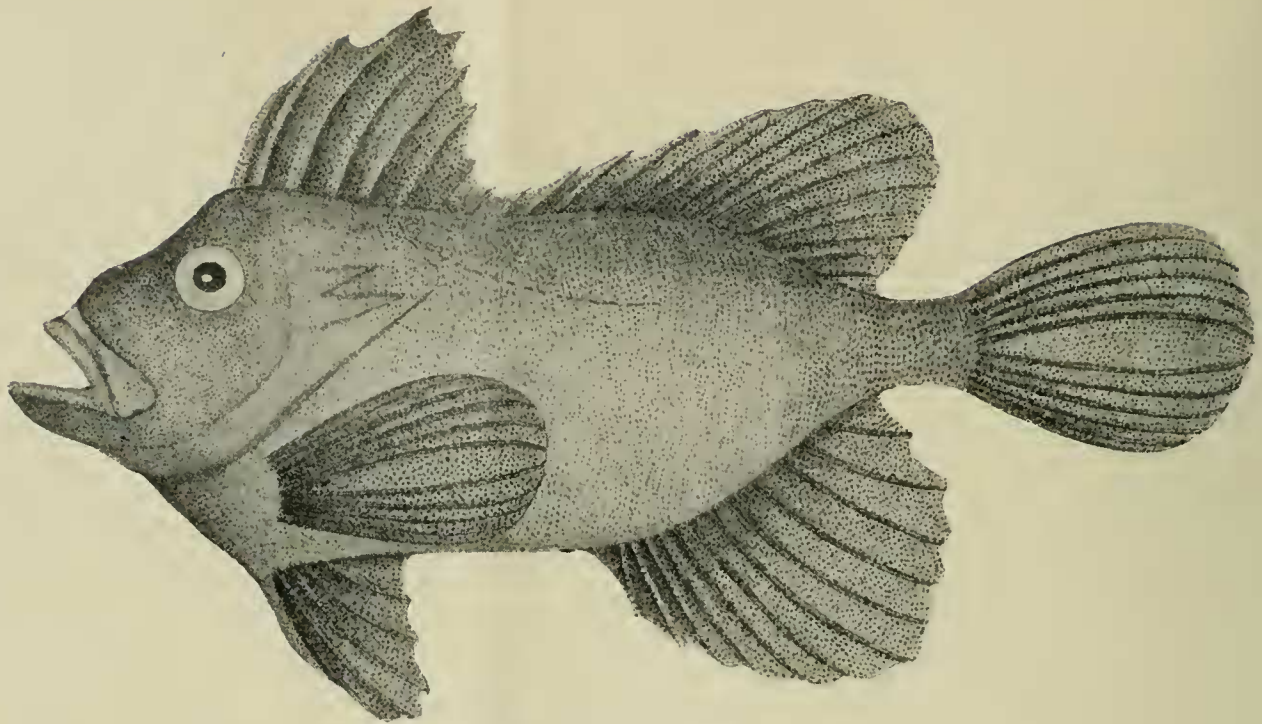


Fig. 280. *Gnathanacanthus goetzeci*.

Specimens obtained alive, in our waters, are of beautiful orange colour.

FAMILY PLATYCEPHALIDAE.

PLATYCEPHALUS Bloch, 1795 (spathula).

PLATYCEPHALUS FUSCUS Cuvier & Valenciennes (Dusky Flathead).

Platycephalus fuscus Cuv. & Val. Hist. Nat. Poiss., iv, 1829, p. 241; Quoy & Gaim., Voy. Astrolabe, iii, 1835, p. 681, pl. x, fig. 1; Ogil., Edib. Fish. N.S.W., 1893, p. 105, pl. xxviii; Stead, Edib. Fish. N.S.W., 1908, p. 111, pl. lxxvii; Roughley, Fish. Aust., 1916, p. 181, pl. lxiii.

?*Platycephalus cinereus* Günth., P.Z.S., 1871, p. 662.



Fig. 281. *Platycephalus fuscus*.

All the Flatheads are good food. The Dusky and Sand Flatheads are the species commonly marketed in Adelaide,

PLATYCEPHALUS BASSENSIS Cuvier & Valenciennes (Sand Flathead).

Platycephalus bassensis Cuv. & Val., Hist. Nat. Poiss., iv, 1829, p. 247; Quoy & Gaim., Voy. Astrolabe, iii, 1835, p. 683, pl. x, fig. 3; Stead, Edib. Fish. N.S.W., 1908, p. 112, pl. lxxviii.

Platycephalus tasmanius Rich., Zool. Ereb. & Terr., 1845, p. 23, pl. xviii, fig. 1, 2.

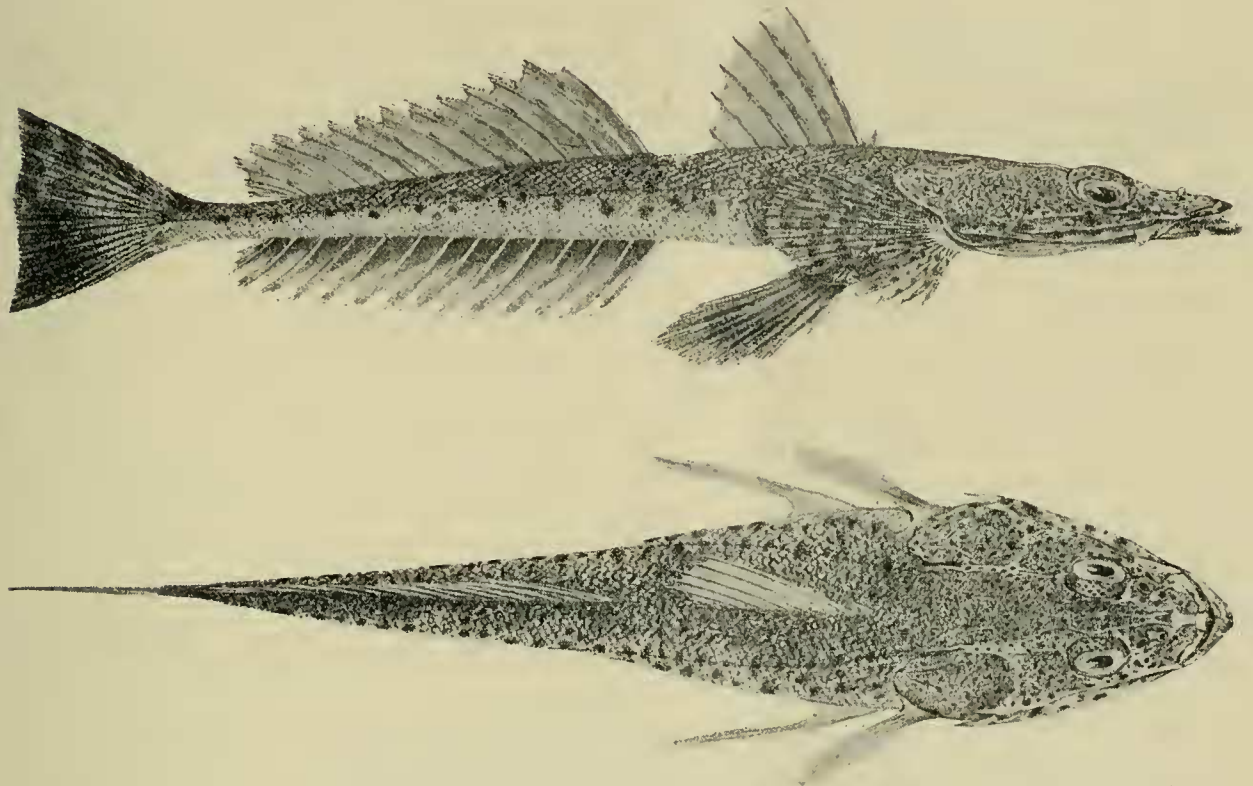


Fig. 282. *Platycephalus bassensis*.

PLATYCEPHALUS LAEVIGATUS Cuvier & Valenciennes.

Platycephalus laevigatus Cuv. & Val., Hist. Nat. Poiss., iv, 1829, p. 248; Quoy & Gaim., Voy. Astrolabe, iii, 1835, p. 684, pl. x, fig. 4.

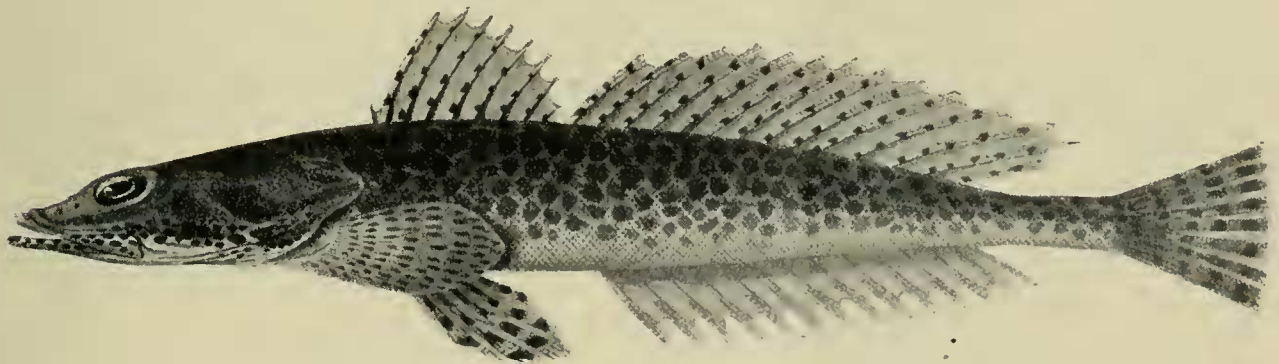


Fig. 283. *Platycephalus laevigatus*.

PLATYCEPHALUS INOPS Jenyns.

Platycephalus inops Jenyns. Zool. Beagle, iii. 1842. p. 33.

PLATYCEPHALUS HAACKEI Steindachner.

Platycephalus haackei Steind., Anz. Akad. Wiss. Wien, xx, 1883, p. 195 and Sitzb. Akad. Wiss. Wien, lxxxviii, 1884. p. 1081, pl. ii, fig. 2.

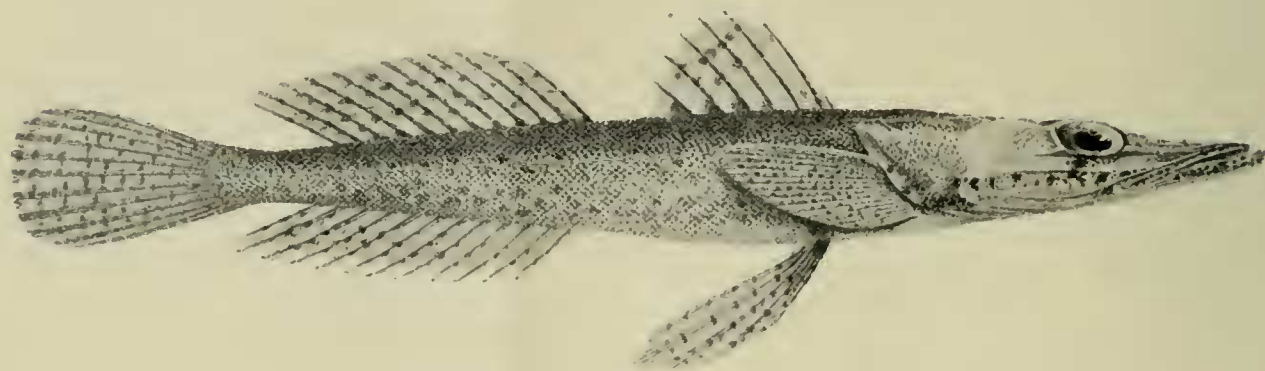


Fig. 285. *Platycephalus haackei*.

PLATYCEPHALUS SEMERMIS De Vis.

Platycephalus semermis De Vis, P.L.S., N.S.W., viii. 1883. p. 285.

NEOPLATYCEPHALUS Castelnau, 1872 (*grandis*).**NEOPLATYCEPHALUS GRANDIS** Castelnau.

Neoplatycephalus grandis Cast., P.Z.S., Viet., i. 1872. p. 87.

NEOPLATYCEPHALUS CONATUS Waite & McCulloch (Deep-water Flathead).

Neoplatycephalus conatus Waite & McCull., T.R.S., S.A., xxxix, 1915, p. 466, pl. xii.

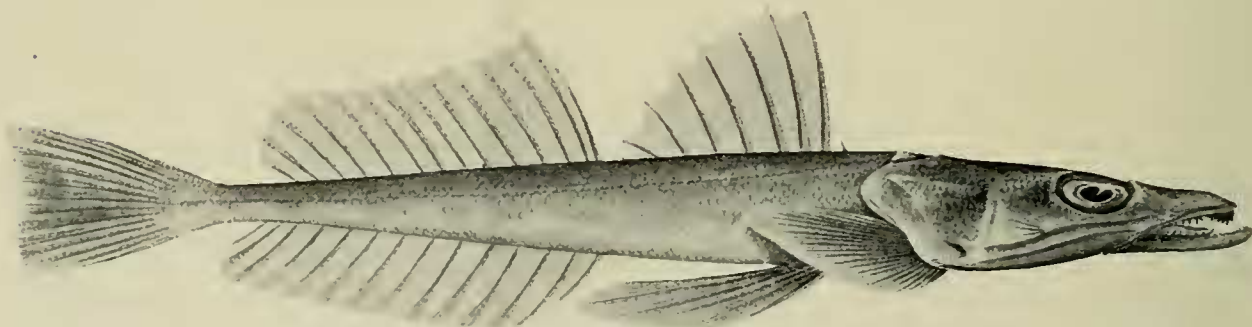


Fig. 288. *Neoplatycephalus conatus*.

THYSANOPHRYS Ogilby, 1898 (*cirronasus*).

THYSANOPHRYS CIRRONASUS Richardson (Tassel-snouted Flathead).

Platycephalus cirronasus Rich., Zool. Ereb. & Terr., 1846, p. 114, pl. li, fig. 7-10.

Thysanophrys cirronasus Ogil., P.L.S., N.S.W., xxiii, 1898, p. 40.

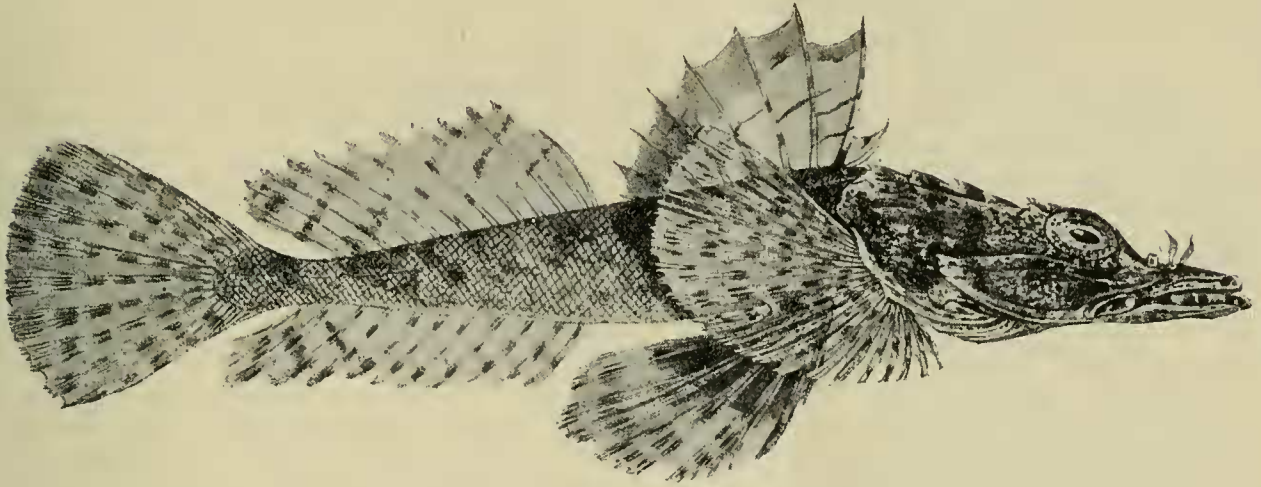


Fig. 289. *Thysanophrys cirronasus*.

FAMILY HOPLICHTHYIDAE.

HOPLICHTHYS Cuvier & Valenciennes, 1829 (*langsdorffi*).

HOPLICHTHYS HASWELLI McCulloch.

Hoplichthys haswelli McCull., Rec. Aust. Mus., vi, 1907, p. 351, pl. lxiv and Endeavour Res., ii, 1914, p. 132.

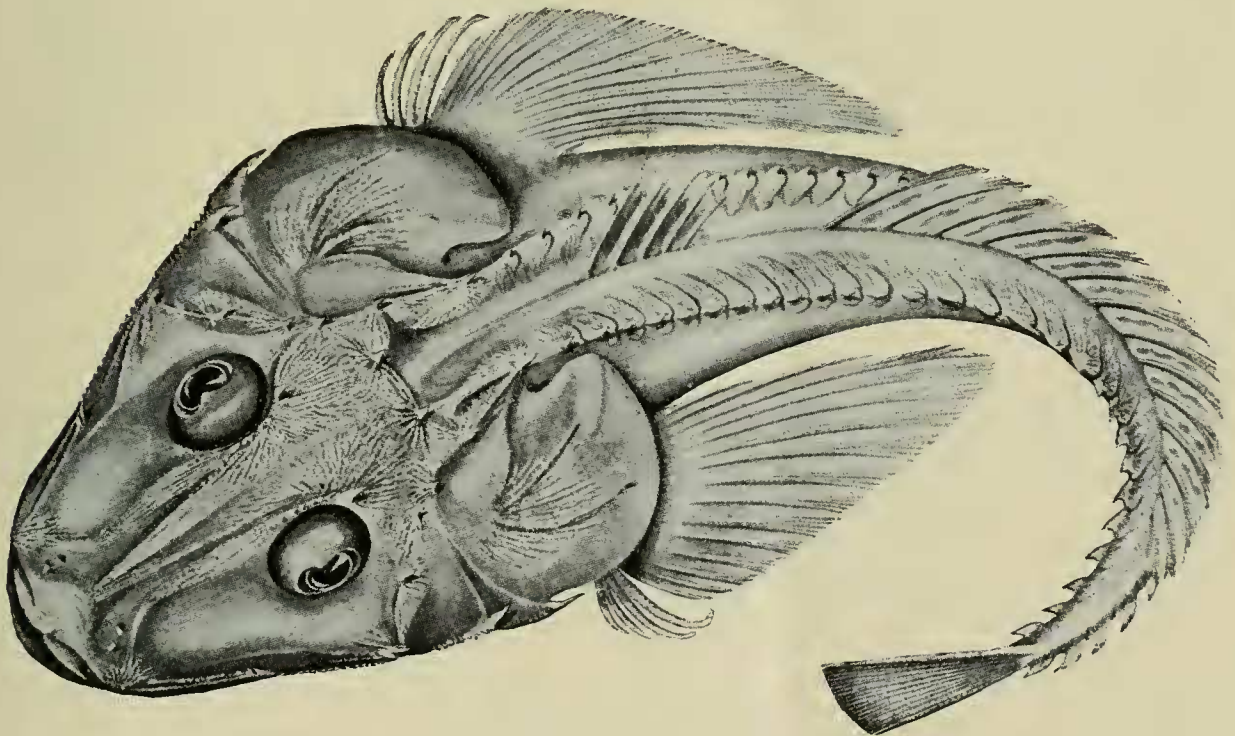


Fig. 290. *Hoplichthys haswelli*.

A deep-water form taken only by the trawl.

FAMILY TRIGLIDAE.

LEPIDOTRIGLA Günther, 1860 (*aspera*).**LEPIDOTRIGLA VANESSA** Richardson (Butterfly Gurnard).

Trigla vanessa Rich., P.Z.S., 1839, p. 97 and T.Z.S., iii, 1849, p. 83, pl. v, fig. 1.

Lepidotrigla vanessa Günth., Cat. Fish. Brit. Mus., ii, 1860, p. 197; McCoy, Prod. Zool. Viet., dec. i, 1878, pl. v.

This and the next species are small fishes, having large scales compared with those of other Gurnards.

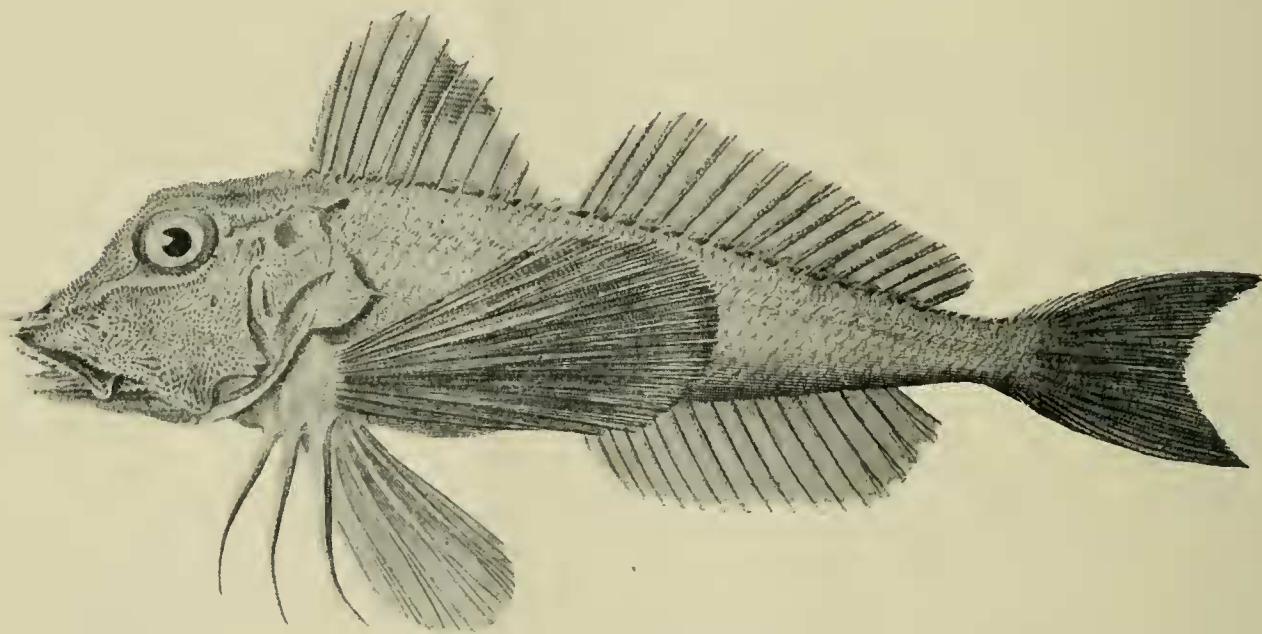


Fig. 291. *Lepidotrigla vanessa*.

PARATRIGLA Ogilby, 1911 (*pleuracanthica*).**PARATRIGLA PLEURACANTHICA** Richardson.

Trigla pleuracanthica Rich., Zool. Ereb. & Terr., 1845, p. 23, pl. xvi, fig. 1-4.

Lepidotrigla pleuracanthica Rams. & Ogil., P.L.S., N.S.W., x, 1886, p. 578.

Paratrigla pleuracanthica Ogil., Ann. Qld. Mus., x, 1911, p. 56.

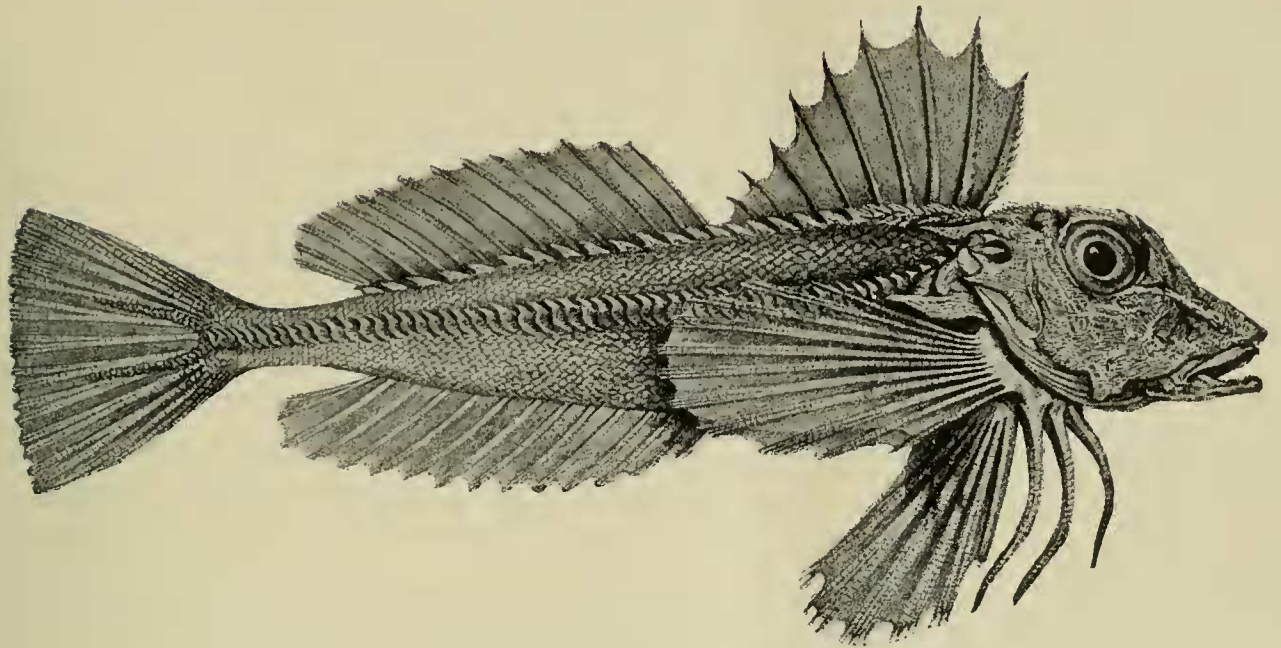


Fig. 292. *Paratrigla pleuracanthia*.

PTERYGOTRIGLA Waite, 1899 (*polyommata*).

PTERYGOTRIGLA POLYOMMATA Richardson (Flying Gurnard).

Trigla polyommata Rich., P.Z.S., 1839, p. 96 and T.Z.S., iii, 1849, p. 87, pl. v, fig. 2; Ogil., Edib. Fish. N.S.W., 1893, p. 111.

Hoplonotus polyommatus Guich., Ann. Soc. Lim. Maine-et-Loire, Ichth., ix, 1866, p. 3.

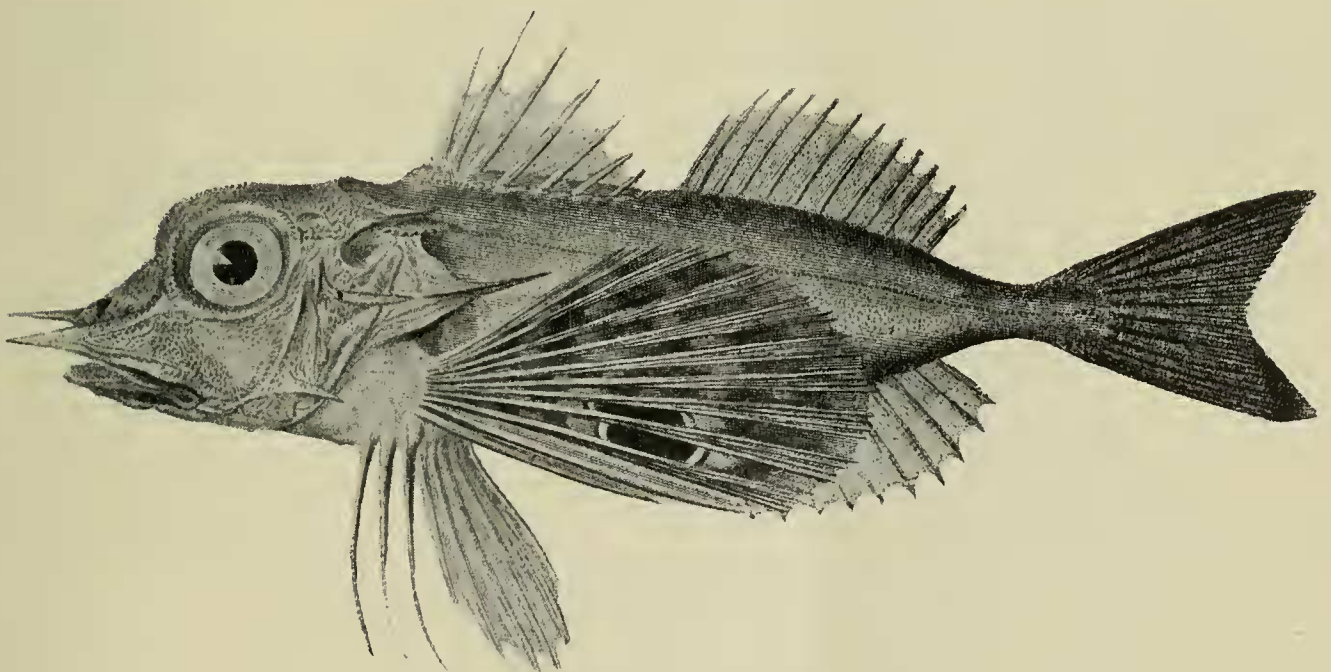


Fig. 293. *Pterygotrigla polyommata*.

Trigla amoena Cast., P.Z.S., Viet., ii, 1873, p. 131.

Pterygotrigla polyommata Waite, Mem. Aust. Mus., iv, 1899, p. 108; Roughley, Fish. Aust., 1916, p. 186, pl. lxxv.

The name Flying Gurnard is bestowed on account of its reputed habit of jumping out of the water.

CHELIDONICHTHYS Kaup, 1873 (hirundo).

CHELIDONICHTHYS KUMU Lesson & Garnot (Red Gurnard).

Trigla kumu Less. & Garn., Voy. Coquille, Poiss., 1826, p. 214, pl. xix; McCoy, Prod. Zool. Viet., dec. i, 1878, pl. vi; Ogil., Edib. Fish. N.S.W., 1893, p. 109, pl. xxix.

Trigla spinosa McClell., Calcutta Journ. Nat. Hist., iv, 1844, p. 396, pl. xxii, fig. 2.

Trigla dorsomaculata Steind., Sitz. Akad. Wiss. Wien, lxxiv, 1876, p. 216.

Chelidonichthys kumu Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 49; Stead, Edib. Fish. N.S.W., 1908, p. 114, pl. lxxix; Roughley, Fish. Aust., 1916, p. 184, pl. lxxiv.

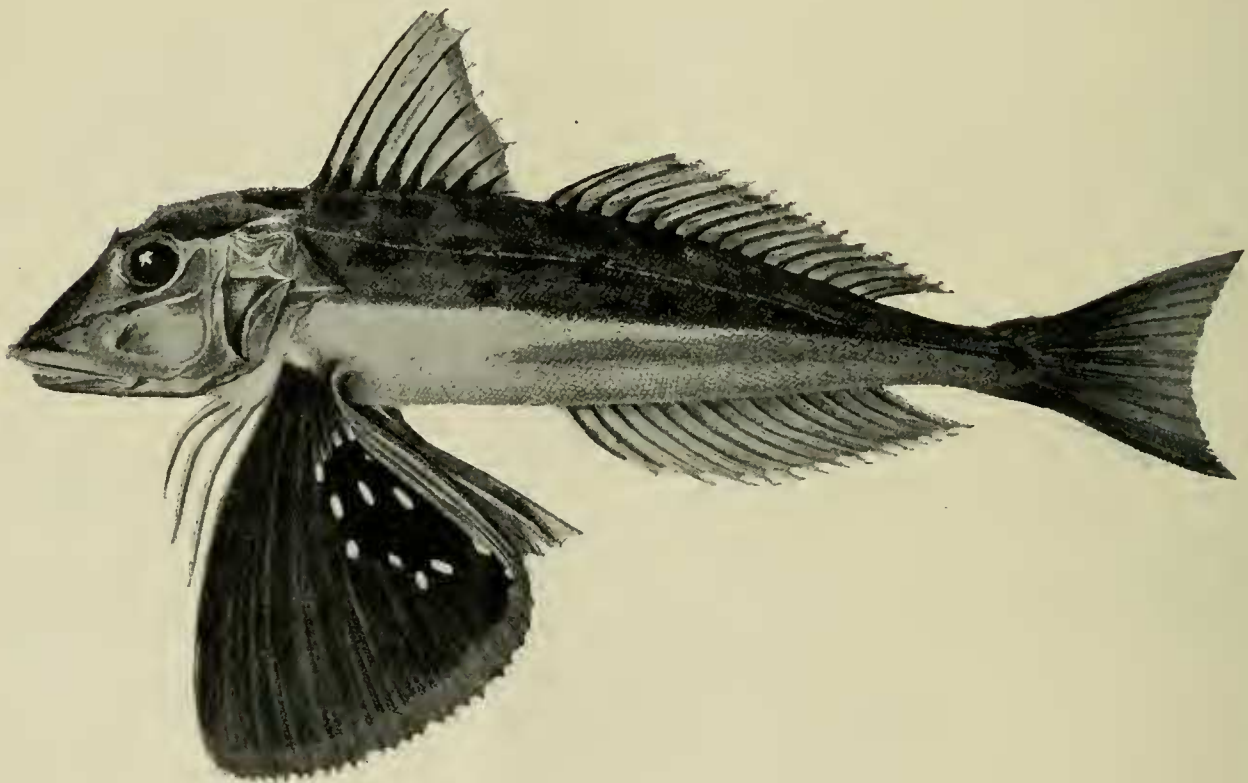


Fig. 294. *Chelidonichthys kumu*.

This and the Flying Gurnard are obtained plentifully where the trawl is operated; both species furnish excellent food, always in demand.

ORDER XENOPTERI.

FAMILY GOBIESOCIDAE.

ASPASMOGASTER Waite, 1907 (spatula).**ASPASMOGASTER TASMANIENSIS** Günther (Cling-fish).

Crepidogaster tasmaniensis Günth., Cat. Fish. Brit. Mus., iii, 1861, p. 507.

Members of this Family are called Cling-fishes because they fasten themselves to stones and seaweed by means of a sucker formed by their ventral fins. All are small and of no economic value.

ASPASMOGASTER SPATULA Günther (Cling-fish).

Crepidogaster spatula Günth., Cat. Fish. Brit. Mus., iii, 1861, p. 508; Waite, Rec. Aust. Mus., vi, 1906, p. 201, pl. xxxvi, fig. 4.

Aspasmogaster spatula Waite, *op. cit.*, 1907, p. 315.

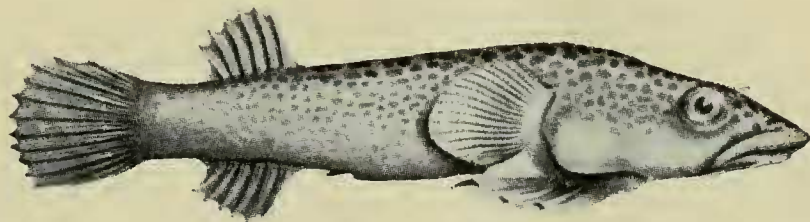


Fig. 296. *Aspasmogaster spatula*.

DIPLOCREPIS Günther, 1861 (puniceus).**DIPLOCREPIS COSTATUS** Ogilby (Cling-fish).

Diplocrepis costatus Ogil., P.L.S., N.S.W., x, 1885, p. 270; Waite, Rec. Aust. Mus., v, 1904, p. 179, p. xxiv, fig. 1.

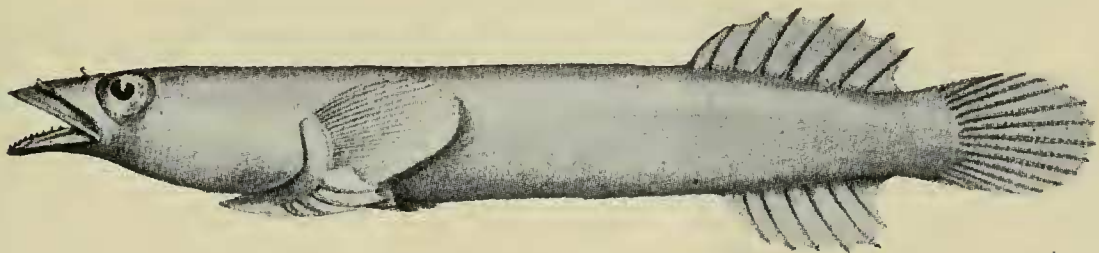


Fig. 297. *Diplocrepis costatus*.

DIPLOCREPIS PARVIPINNIS Waite (Small-finned Cling-fish).

Diplocrepis parvipinnis Waite, Rec. Aust. Mus., vi, 1906, p. 202, pl. xxxvi, fig. 3.



Fig. 298. *Diplocrepis parvipinnis*.

ORDER PEDICULATI.

SUB-ORDER LOPHIOIDEA.

FAMILY ANTENNARIIDAE.

RHYCHERUS Ogilby, 1907 (wildii=filamentosus).**RHYCHERUS FILAMENTOSUS** Castelnau (Tasselled Frog-fish).

Chironectes filamentosus Cast., P.Z.S., Viet., i, 1872, p. 244 and ii, 1873, p. 65.

Antennarius filamentosus Macl., P.L.S., N.S.W., v, 1881, p. 579.

Chironectes bifurcatus McCoy, Prod. Zool. Viet., dec. xiii, 1886, pl. cxxiii.

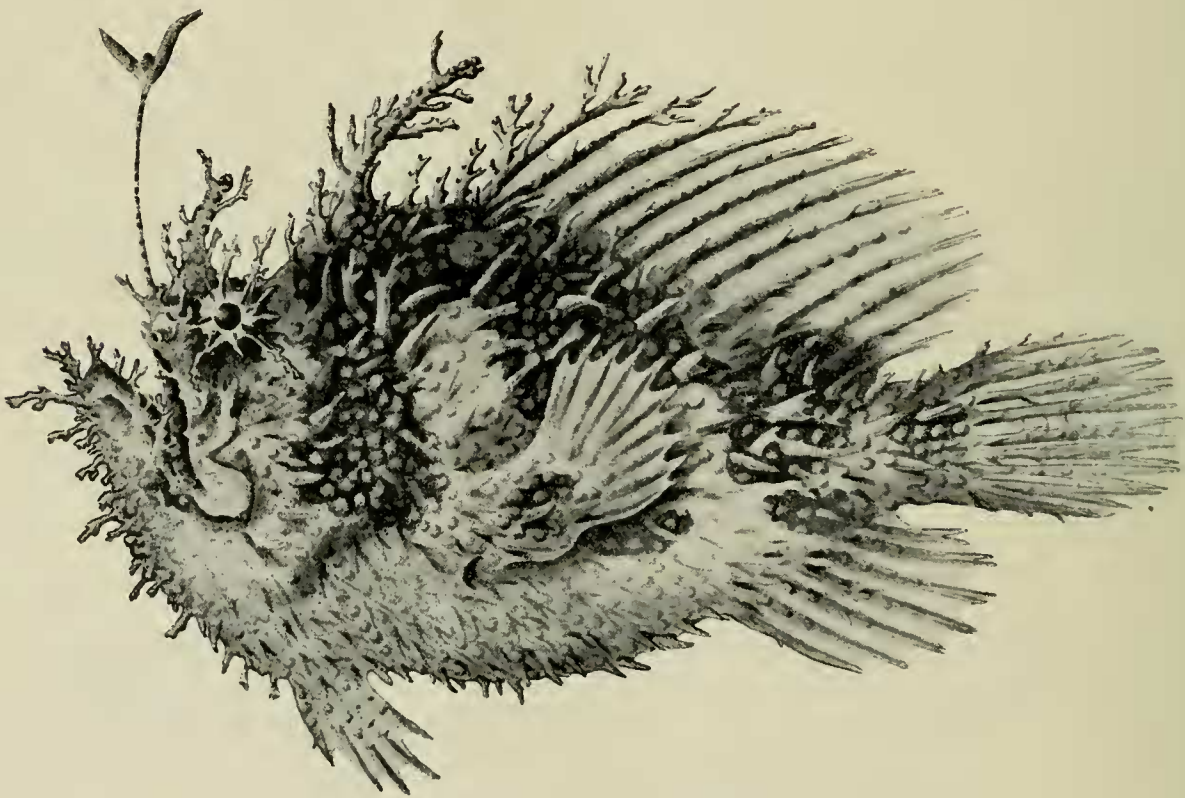


Fig. 299. *Rhycherus filamentosus*.

Rhycherus wildii and *R. bifurcatus* Ogil., P.R.S., Qld., xx, 1907, p. 18, 19.

Rhycherus filamentosus McCull., Mem. Qld. Mus., v, 1916, p. 68; McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 70, pl. vi, fig. 3 and text fig. 31.

The quaint sluggish fishes of this and the next Family are also known as Fishing-frogs, the flexible rod-like spine on the snout being furnished with a mobile fleshy lure that attracts smaller fishes to their destruction.

HISTIOPHRYNE Gill, 1863 (bougainvilli).

HISTIOPHRYNE BOUGAINVILLI Cuvier & Valenciennes (Smooth Frog-fish).

Chironectes bougainvilli Cuv. & Val., Hist. Nat. Poiss., xii, 1837, p. 431.

Antennarius bougainvilli Günth., Cat. Fish. Brit. Mus., iii, 1861, p. 199.

Histiophryne bougainvilli Gill, Proc. Acad. Nat. Sci. Phil., 1863, p. 90; McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 72, pl. vii, fig. 1.

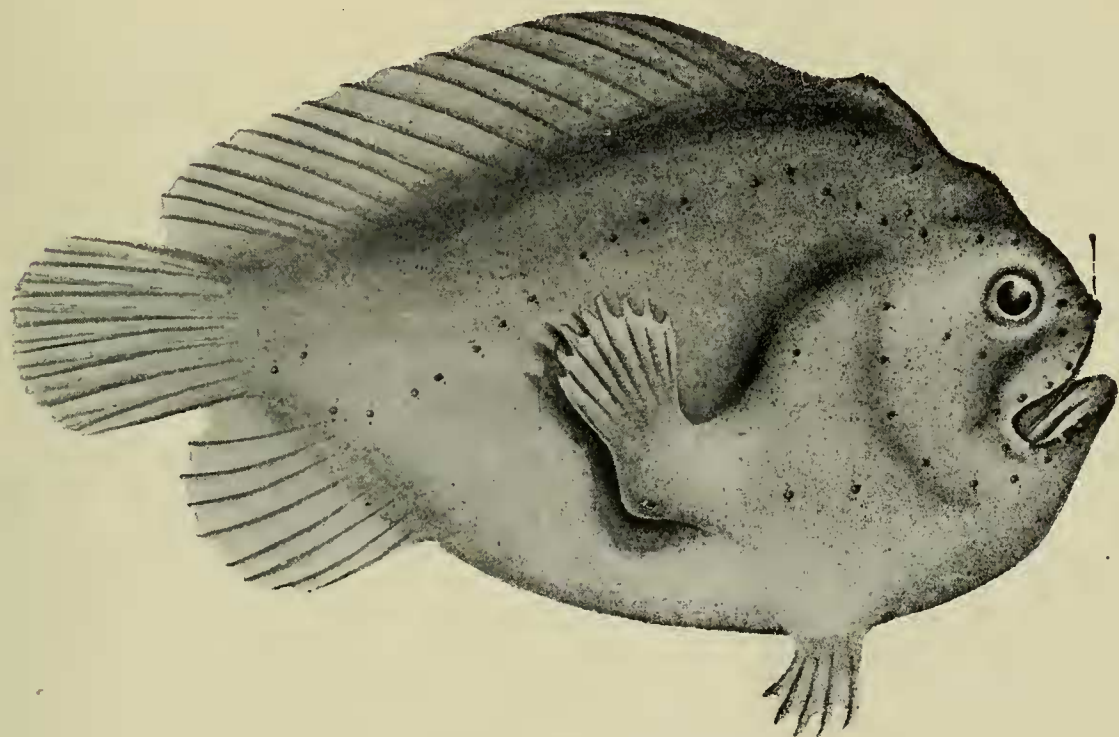


Fig. 300. *Histiophryne bougainvilli*.

HISTIOPHRYNE SCORTEA McCulloch & Waite (White-spotted Frog-fish).

Histiophryne scortea McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 74, pl. vii, fig. 2 and var. *inconstans*, *op. cit.*, p. 75.

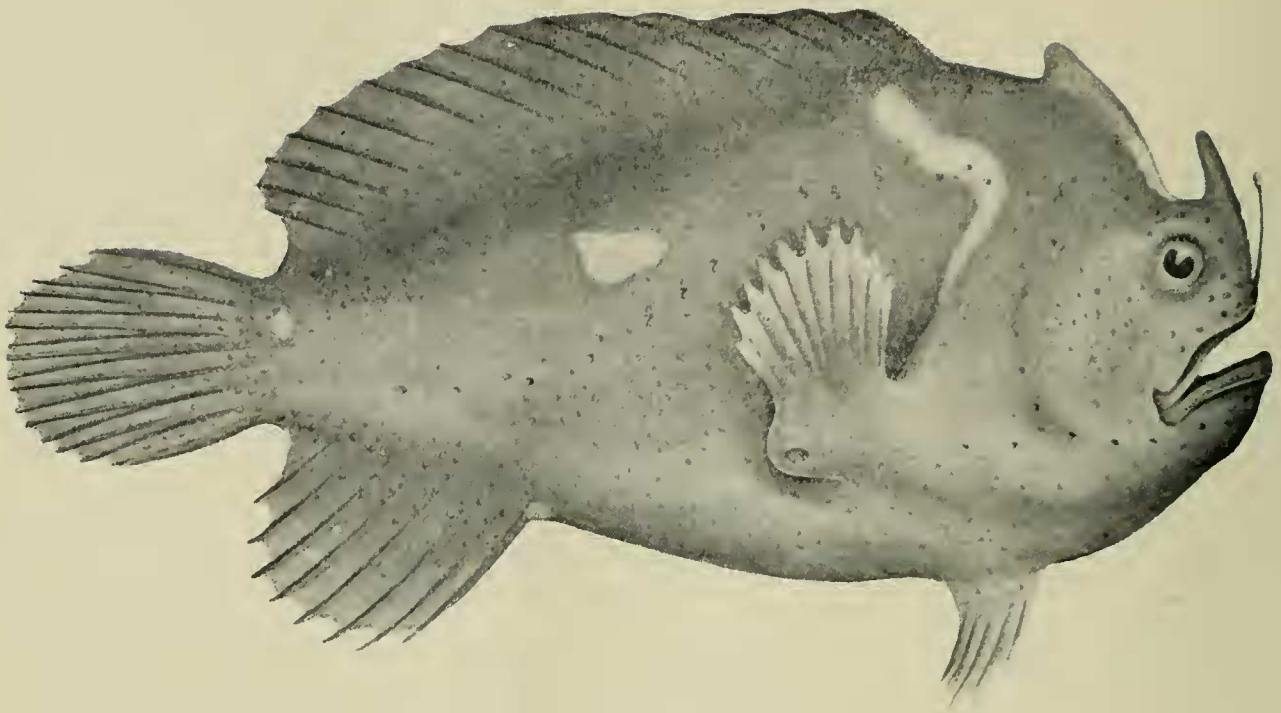


Fig. 301. *Histiophryne scortea*.

ECHINOPHRYNE McCulloch & Waite, 1918 (*crassispina*).

ECHINOPHRYNE CRASSISPINA McCulloch & Waite (Prickly Frog-fish).

Echinophryne crassispina McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 67, pl. vi, fig. 2.

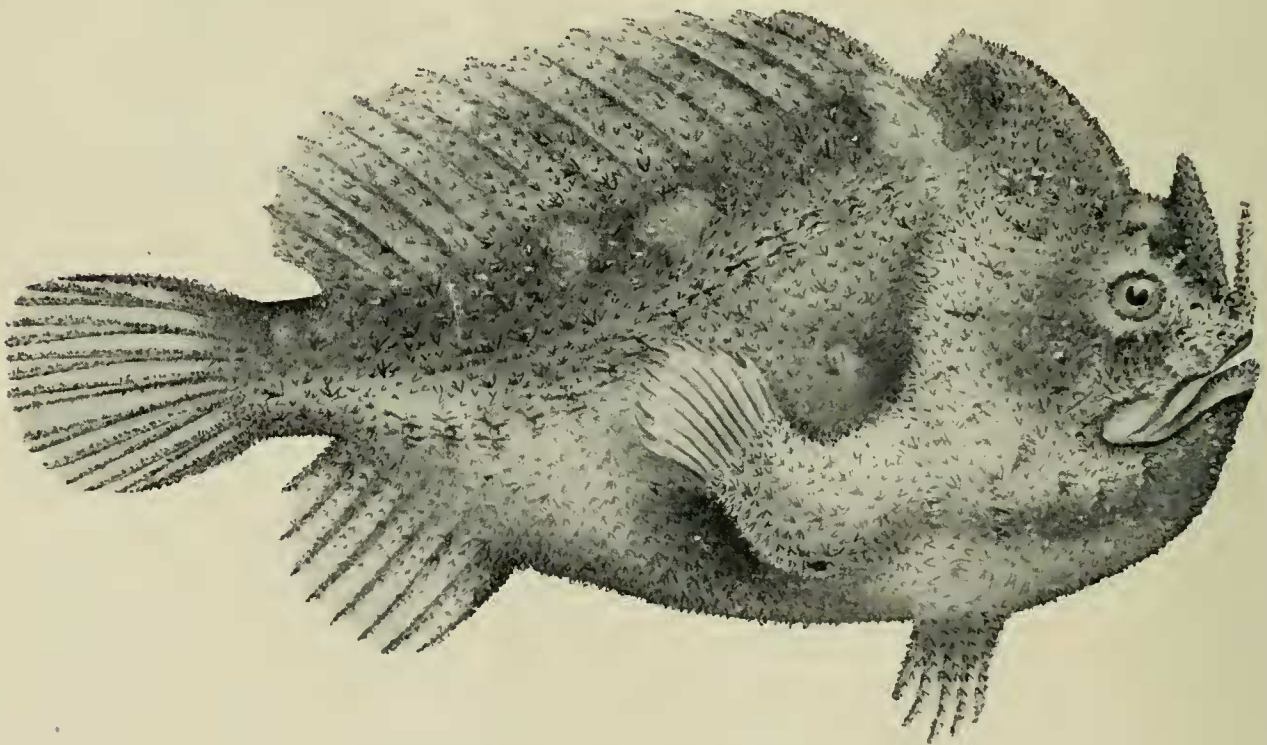


Fig. 302. *Echinophryne crassispina*.

TRICHOPHRYNE McCulloch & Waite, 1918 (*mitchellii*).

TRICHOPHRYNE MITCHELLII Morton (Bristly Frog-fish).

Antennarius mitchellii Mort., P.R.S., Tasm., 1897, p. 98.

Trichophryne mitchellii McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 68, pl. vi, fig. 1.

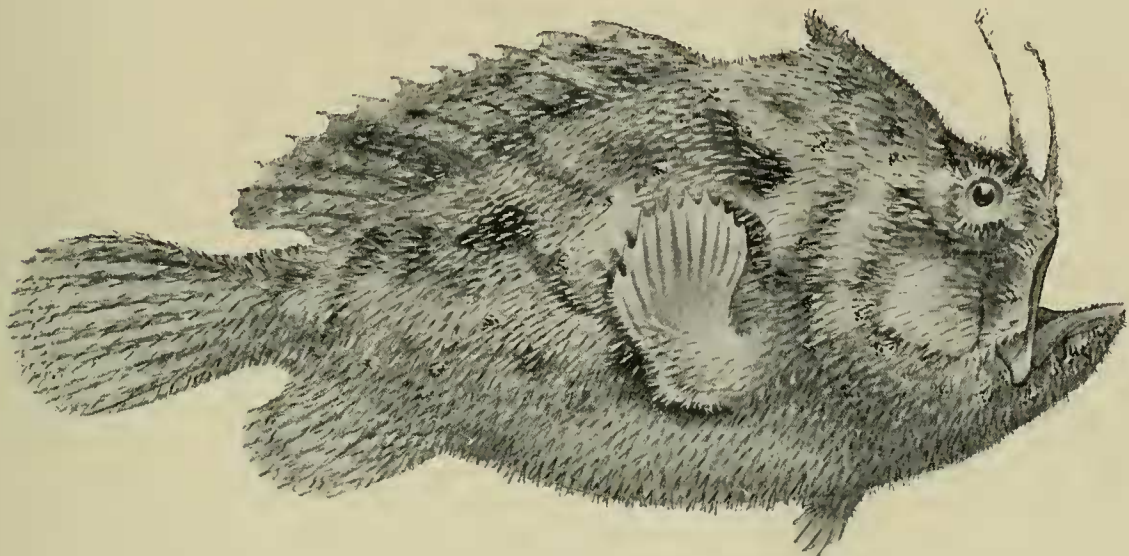


Fig. 303. *Trichophryne mitchellii*.

FAMILY BRACHIONICHTHYIDAE.

SYMPTERICHTHYS Gill, 1878 (*laevis*).

SYMPTERICHTHYS VERRUCOSUS McCulloch & Waite (Warty Frog-fish).

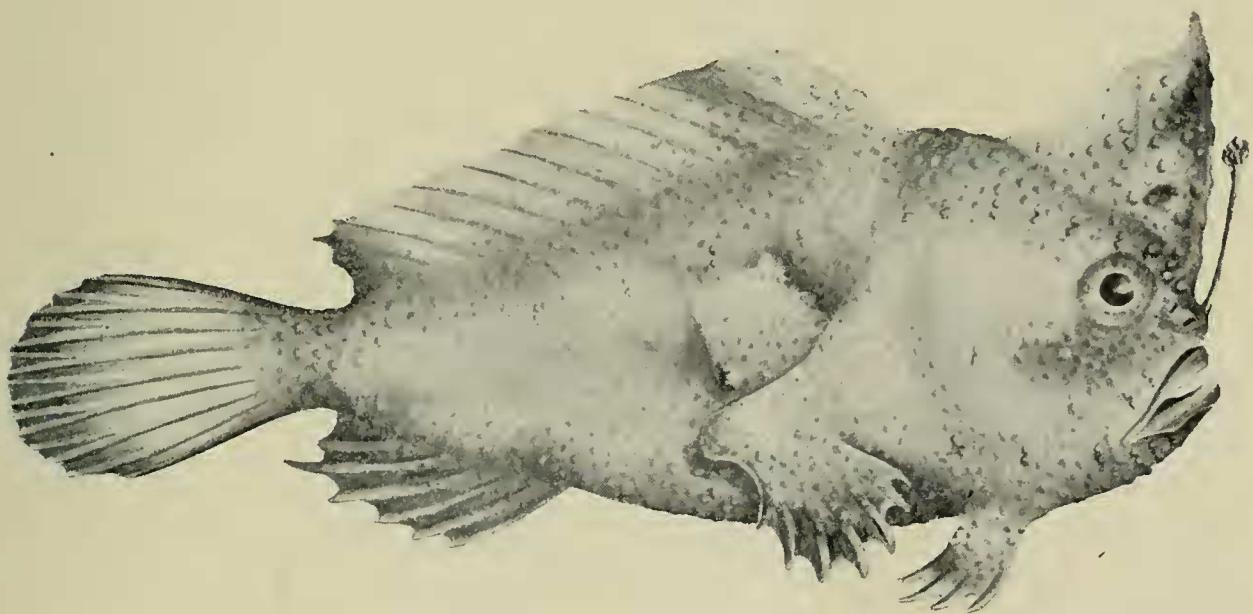


Fig. 304. *Sympterichthys verrucosus*.

Symptericthys verrucosus McCull. & Waite, Rec. S. Aust. Mus., i, 1918, p. 76, pl. vii, fig. 3.

ORDER PLECTOGNATHI.

DIVISION SCLERODERMI.

FAMILY MONACANTHIDAE.

CANTHERINES Swainson, 1839 (*nasutus*).

CANTHERINES GRANULATUS Shaw (Rough Leather-jacket).

Balistes granulata Shaw, in White's Voy. N.S.W., 1790, p. 295, pl. xxxix, fig. 2.

Monacanthus granulatus Rich., Zool. Ereth. & Terr., 1846, p. 63, pl. xl, fig. 1, 2.

Monacanthus granulatus Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 243.

Monacanthus perulifer Cast., P.Z.S., Vict., i, 1872, p. 245.

Monacanthus margaritifera and *M. brunneus* Cast., *op. cit.*, ii, 1873, p. 80, 145.

Monacanthus obscurus Cast., Res. Fish. Aust., 1875, p. 51.

Monacanthus sancti-jouanni Cast., P.L.S., N.S.W., ii, 1878, p. 246.

Pseudomonacanthus granulatus Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 56.

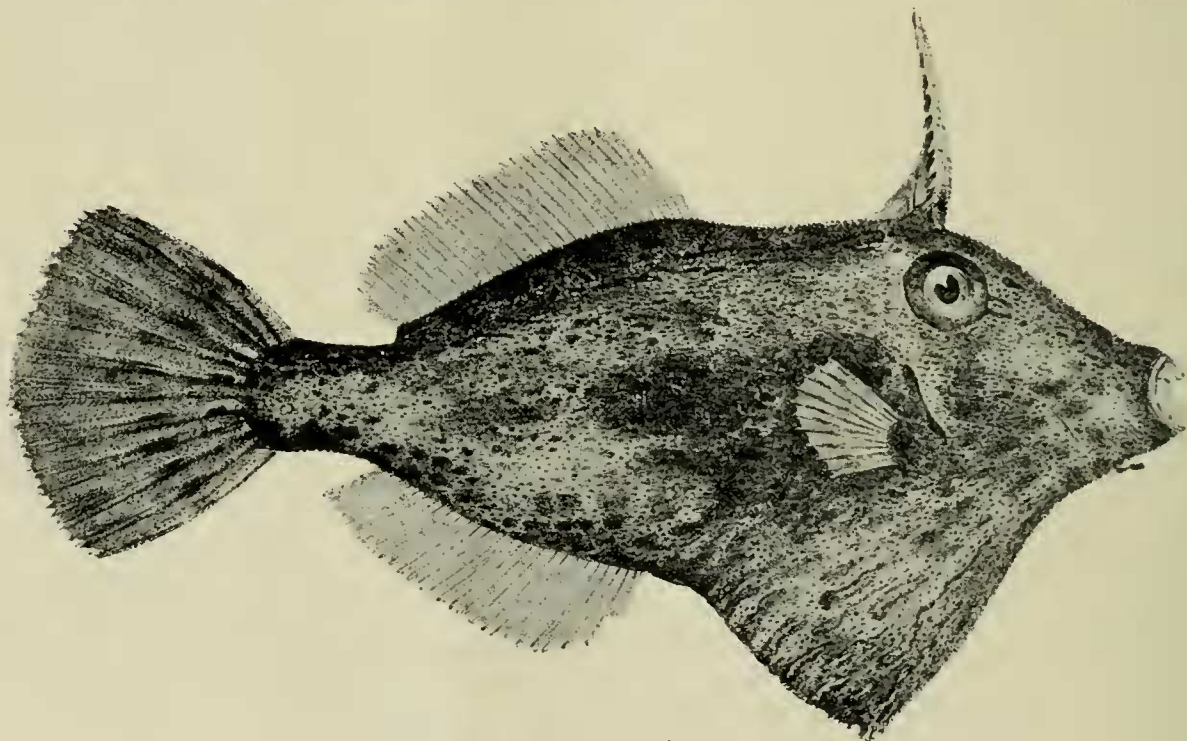


Fig. 305. *Cantherines granulatus*.

The Leather-jackets are excellent food, but require to be skinned before cooking. As their appearance is prejudicial they are often skinned before being exposed for sale.

CANTHERINES HIPPOCREPIS Quoy & Gaimard (Horseshoe Leather-jacket).

Balistes hippocrepis Quoy & Gaim., Voy. Uran. & Physic., 1824, p. 212.

Alcutterius variabilis Rich., Zool. Ereb. & Terr., 1846, p. 67, pl. liii, fig. 1-7.

Monacanthus hippocrepis Holl., Ann. Sci. Nat. (4), ii, 1854, p. 338; McCoy, Prod. Zool. Viet., dec. xiii, 1886, pl. cxxv; Ogil., Edib. Fish. N.S.W., 1893, p. 194, pl. xlviii.

Pseudomonacanthus hippocrepis Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 56.

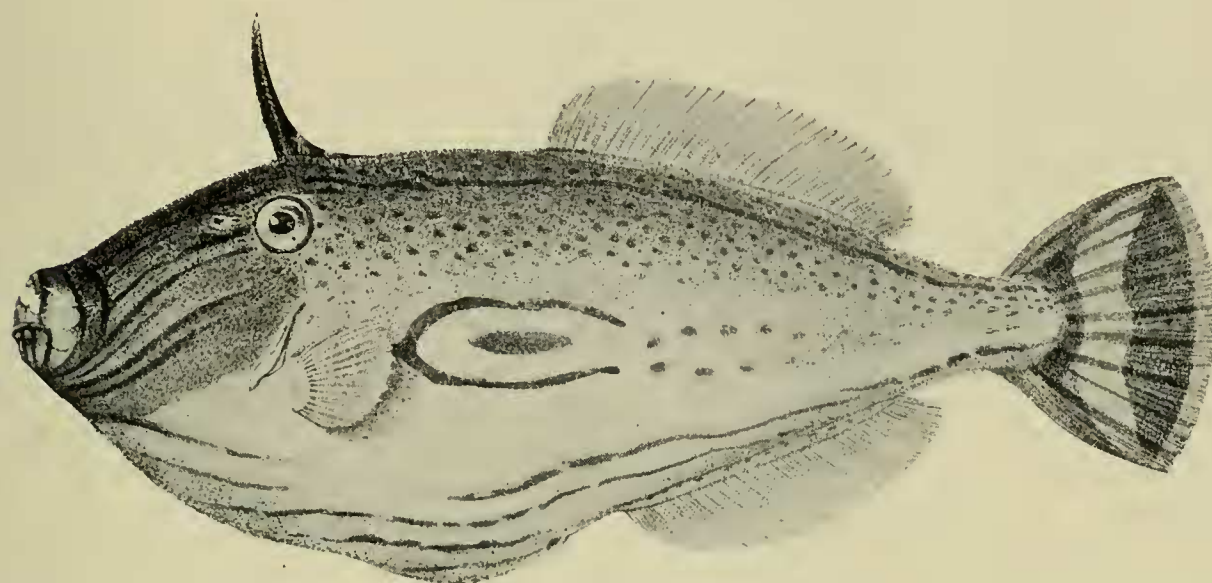


Fig. 306. *Cantherines hippocrepis*.

A large and well-flavoured species, reaching a length of 18 inches.

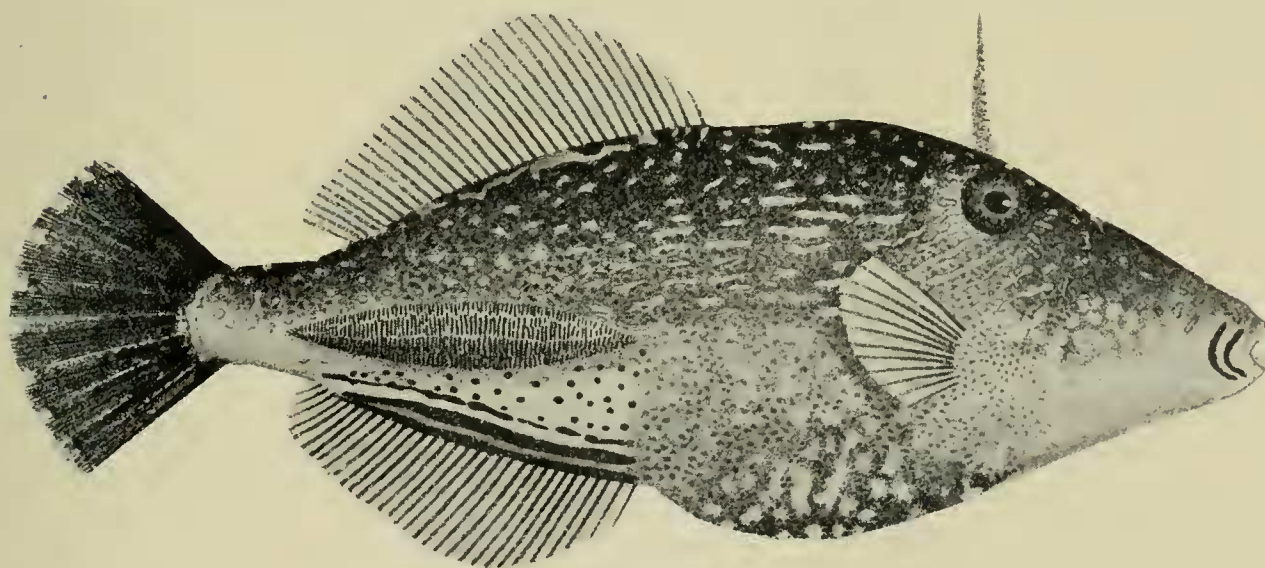
CANTHERINES BROWNII Richardson (Toothbrush Leather-jacket).

Fig. 307. *Cantherines brownii*.

Aleuterius brownii Rich., Zool. Ereb. & Terr., 1846, p. 68.

Monacanthus linco-guttatus Holl., Ann. Sci. Nat. (4), ii, 1854, p. 352.

Monacanthus brownii Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 249; McCoy, Prod. Zool. Viet., dec. xiii, 1886, pl. exxiv.

Monacanthus yagoi Cast., P.L.S., N.S.W., ii, 1878, p. 245.

The patch of bristles on each side of the tail is responsible for the common name.

CANTHERINES AYRAUDI Quoy & Gaimard (Yellow Leather-jacket).

Balistes ayraud Quoy & Gaim., Voy. Uran. & Physic., 1824, p. 216, pl. xlvii, fig. 2.

Aleuterus velutinus Jenyns, Voy. Beagle, iii, 1842, p. 157.

Monacanthus vittatus Rich., Zool. Ereb. & Terr., 1846, p. 66.

Monacanthus frauenfeldii Kner, Reise Novara, 1867, p. 397.

Monacanthus ayraudi Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 244; Ogil., Edib. Fish. N.S.W., 1893, p. 196.

Pseudomonacanthus ayraudi Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 56; Roughley, Fish. Aust., 1916, p. 188, pl. lxvi.

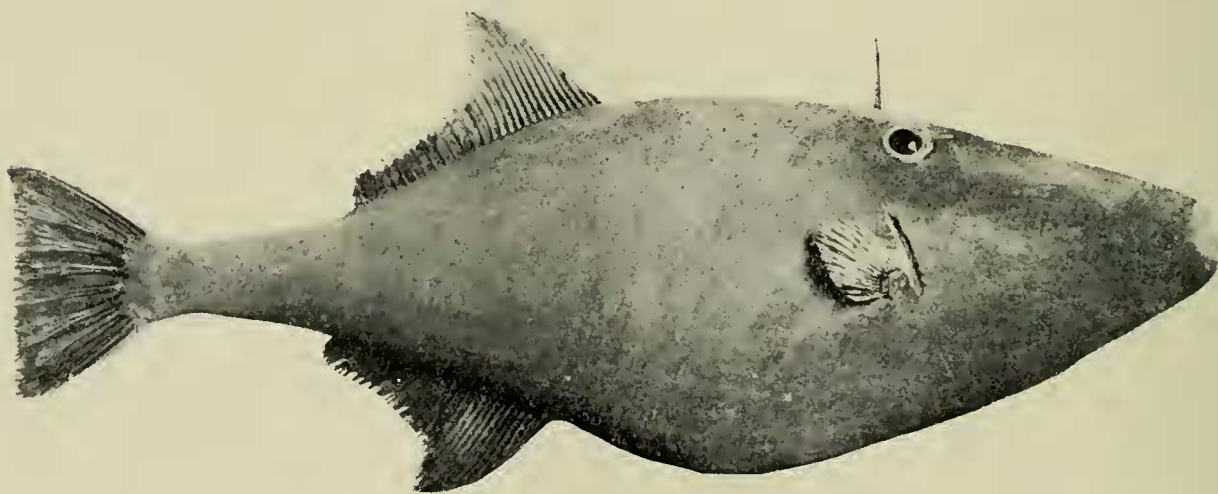


Fig. 308. *Cantherines ayraudi*.

Our largest and most important species, attaining a length of nearly 2 feet.

CANTHERINES VITTIGER Castelnau.

Monacanthus vittiger Cast., P.Z.S., Viet., ii, 1873, p. 81.

CANTHERINES GUNTHERI Macleay.

Monacanthus peronii Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 249 (not Holl.).

Monacanthus guntheri Mael. P.L.S., N.S.W., vi, 1881, p. 314.

Pseudomonacanthus guntheri Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 56.

CANTHERINES PERONII Hollard (Banded Leather-jacket).

Monacanthus peronii Holl., Ann. Sci. Nat. (4), ii, 1854, p. 356, pl. xiii, fig. 8;
McCoy, Prod. Zool. Viet., dec. xv, 1887, pl. exliii.

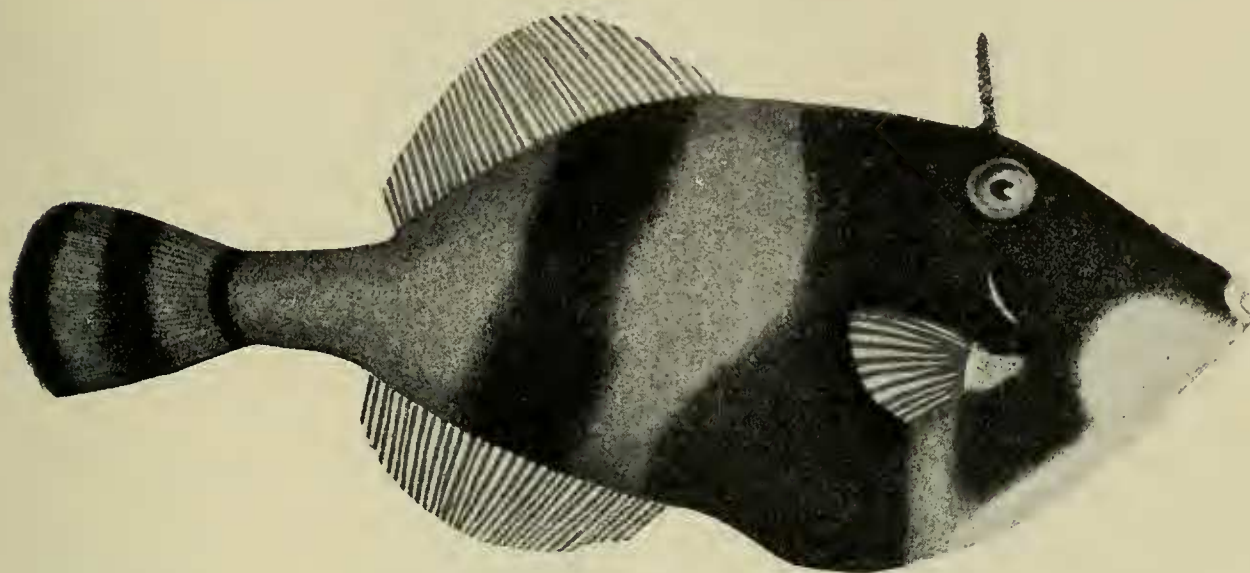


Fig. 311. *Cantherines peronii*.

CANTHERINES MULTIRADIATUS Günther.

Monacanthus multiradiatus Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 248.

CANTHERINES SPILOMELANURUS Quoy & Gaimard (Bridled Leather-jacket).

Balistes spilomelanurus Quoy & Gaim., Voy. Uran. & Physic., 1824, p. 217.

Aleuterius paragaudatus Rich., Zool. Ereb. & Terr., 1846, p. 66, pl. xxxix, fig. 1-4.

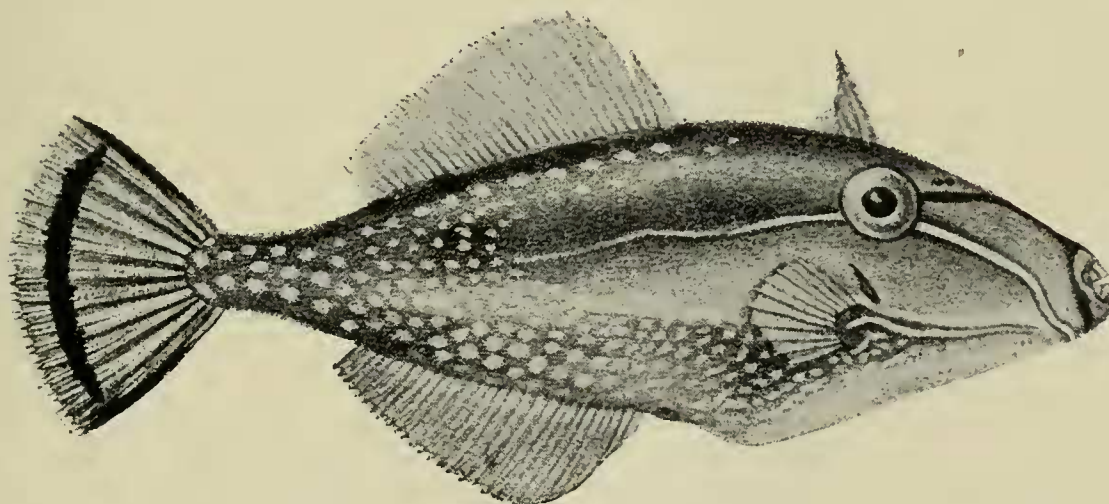


Fig. 313. *Cantherines spilomelanurus*.

Monacanthus spilomelanurus Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 250.

Pseudomonacanthus spilomelanurus Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 56.

CANTHERINES SETOSUS Waite (Velvet Leather-jacket).

Monacanthus setosus Waite, Mem. Aust. Mus., iv, 1899, p. 91, pl. xvi.

Pseudomonacanthus setosus Waite, Mem. N.S.W. Nat. Club., ii, 1904, p. 56.

Cantherines setosus Waite & McCull., T.R.S., S.A., xxxix, 1915, p. 472, pl. xiv.

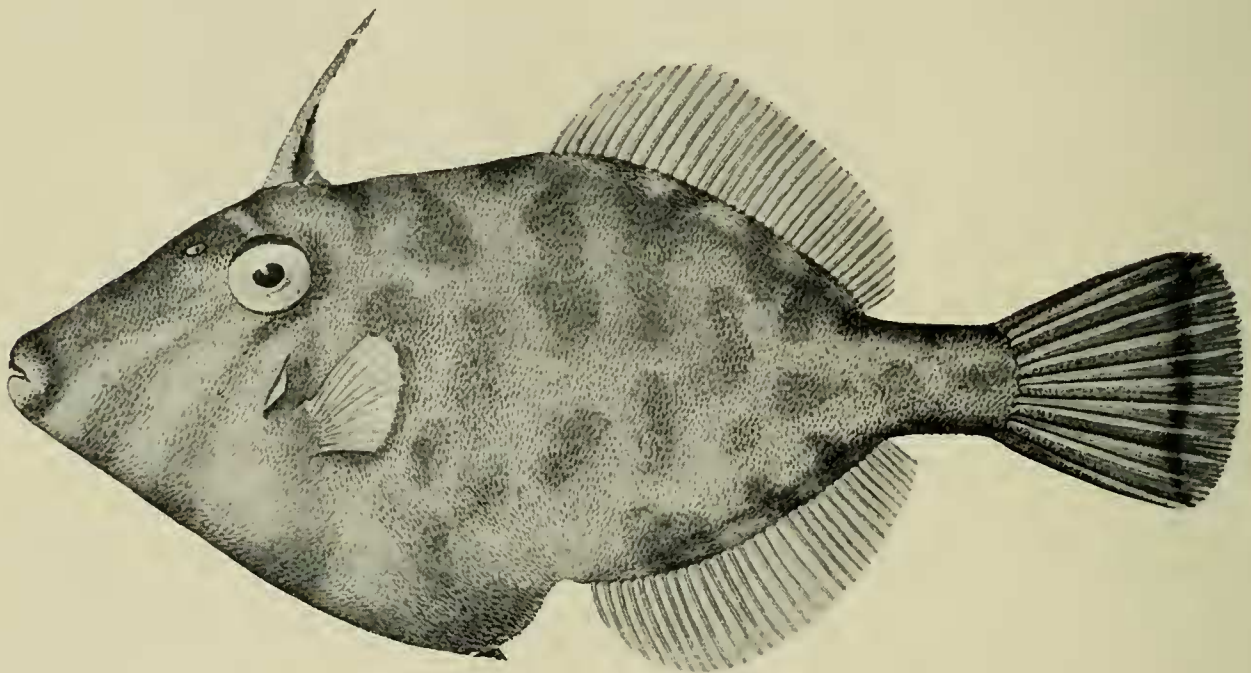


Fig. 314. *Cantherines setosus*.

The Leather-jackets are elsewhere called Trigger-fishes. The barbed spine can be locked erect; it can be released at will, or by the fisherman depressing the small second spine, which acts as a trigger.

CANTHERINES MOSAICUS Ramsay & Ogilby (Mosaic Leather-jacket).

Monacanthus mosaicus Rams. & Ogil., P.L.S., N.S.W. (2), i, 1886, p. 5; Waite, Mem. Aust. Mus., iv, 1899; p. 93, pl. xvii, fig. 1.

Pseudomonacanthus mosaicus Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 56.

Cantherines mosaicus McCull., Endeavour Res., iii, 1915, p. 170, pl. xxxvii, fig. 1, 2

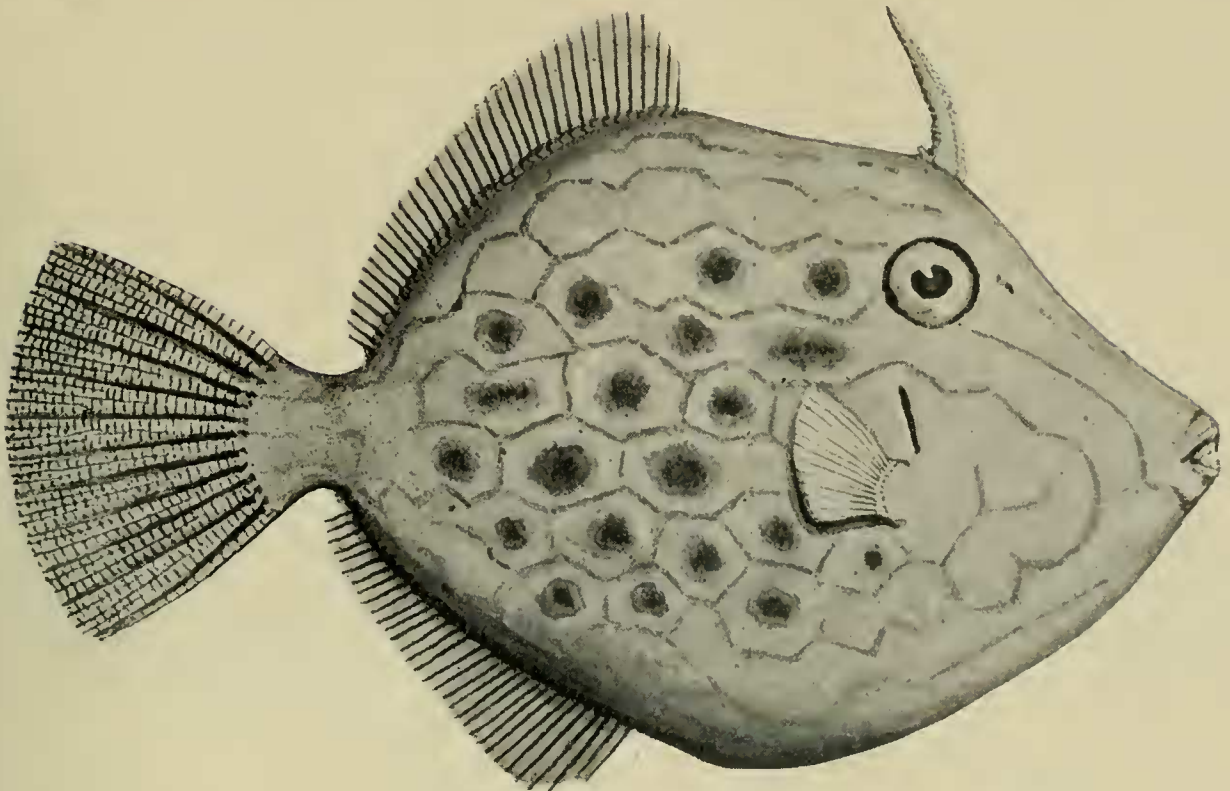


Fig. 315. *Cantherines mosaicus*.

The mosaic-like markings, whence the fish derives its name, are largely lost in adult life.

BRACHALUTERES Bleeker, 1866 (*trossulus*).

BRACHALUTERES TROSSULUS Richardson (Little Leather-jacket).

Aleuterius trossulus Rich., Zool. Ereb. & Terr., 1846, p. 68, pl. xl, fig. 5, 6; Holl., Ann. Sci. Nat. (4), iv, 1855, p. 6, pl. i, fig. 1.

Brachaluteres trossulus Bleek., Ned. Tyds. Dierk., iii, 1866, p. 13.

Monacanthus trossulus and *M. oculatus* Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 234, 235.

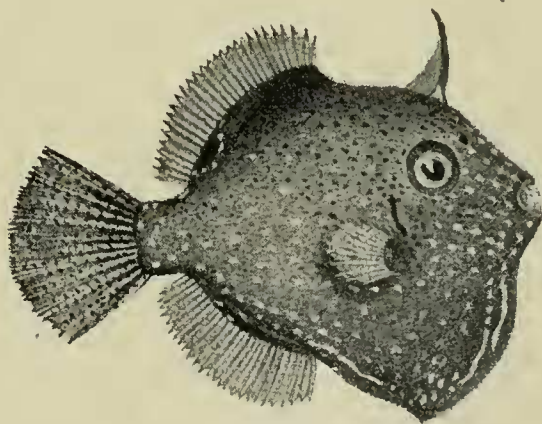
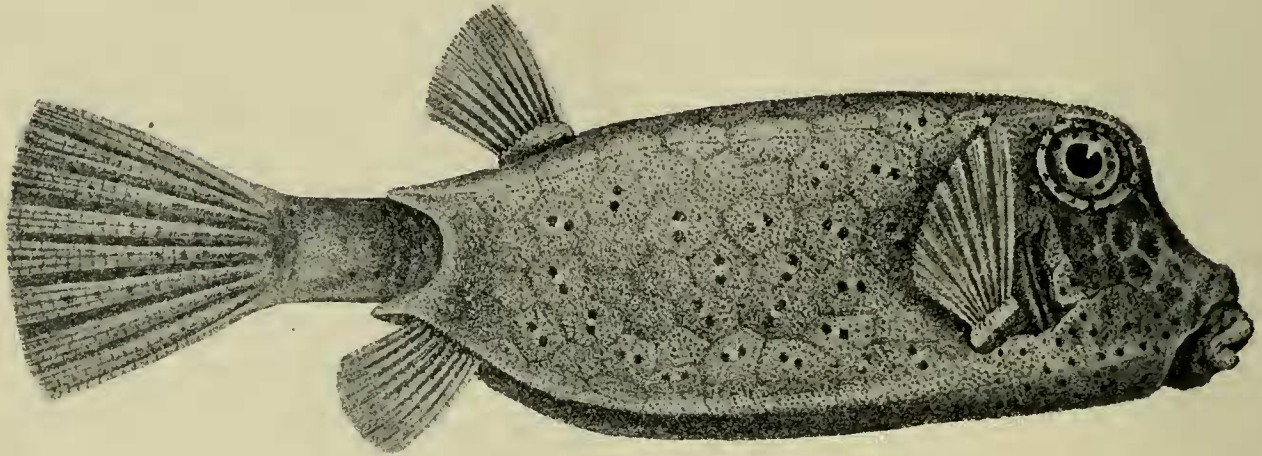


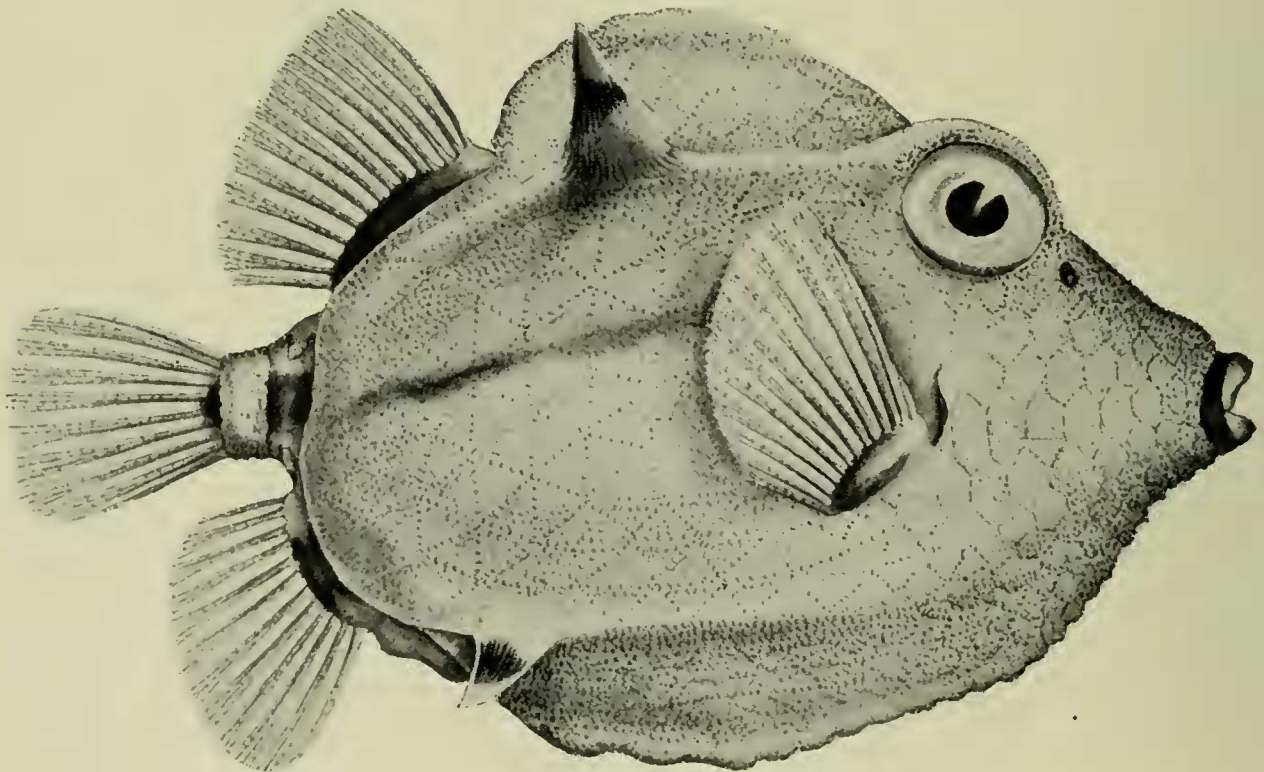
Fig. 316. *Brachaluteres trossulus*.

The figure represents the natural size of this species.

FAMILY OSTRACIONTIDAE.

OSTRACION Linnaeus, 1758 (cubicus=tuberculatum).**OSTRACION TUBERCULATUM** Linnaeus (Box-fish).*Ostracion tuberculatus* and *O. cubicus* Linn., Syst. Nat. (ed. x), 1758, p. 331, 332.*Ostracion cubicus* Day, Fish. India, 1878, p. 696, pl. clxxxii, fig. 3 (syn.).Fig. 317. *Ostracion tuberculatum*.

The scales are modified to form a rigid carapace; parts around the gill-openings and bases of the fins are exposed to permit of breathing and swimming.

CAPROPYGGIA Kaup, 1855 (unistriata).**CAPROPYGGIA UNISTRATIATA** Kaup.*Capropygia unistriata* Kaup, Arch. f. Naturg., xxi, 1855, p. 220; McCull. & Waite, T.R.S., S.A., xxxix, 1915, p. 478, pl. xvi.Fig. 318. *Capropygia unistriata*.

ANOPOLOCAPROS Kaup, 1855 (*grayi*=*lenticularis*).**ANOPOLOCAPROS LENTICULARIS** Richardson.

Ostracion lenticularis Rich., P.Z.S., 1841, p. 21.

Anoplocapros lenticularis Kaup, Arch. f. Naturg., xxi, 1855, p. 221; McCull. & Waite, T.R.S., S.A., xxxix, 1915, p. 479, pl. xvii.

Anoplocapros grayi Kaup, *loc. cit.*

Aracana lenticularis Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 268; Waite, Mem. Aust. Mus., iv, 1899, p. 95, pl. xvii, fig. 2 and pl. xviii.

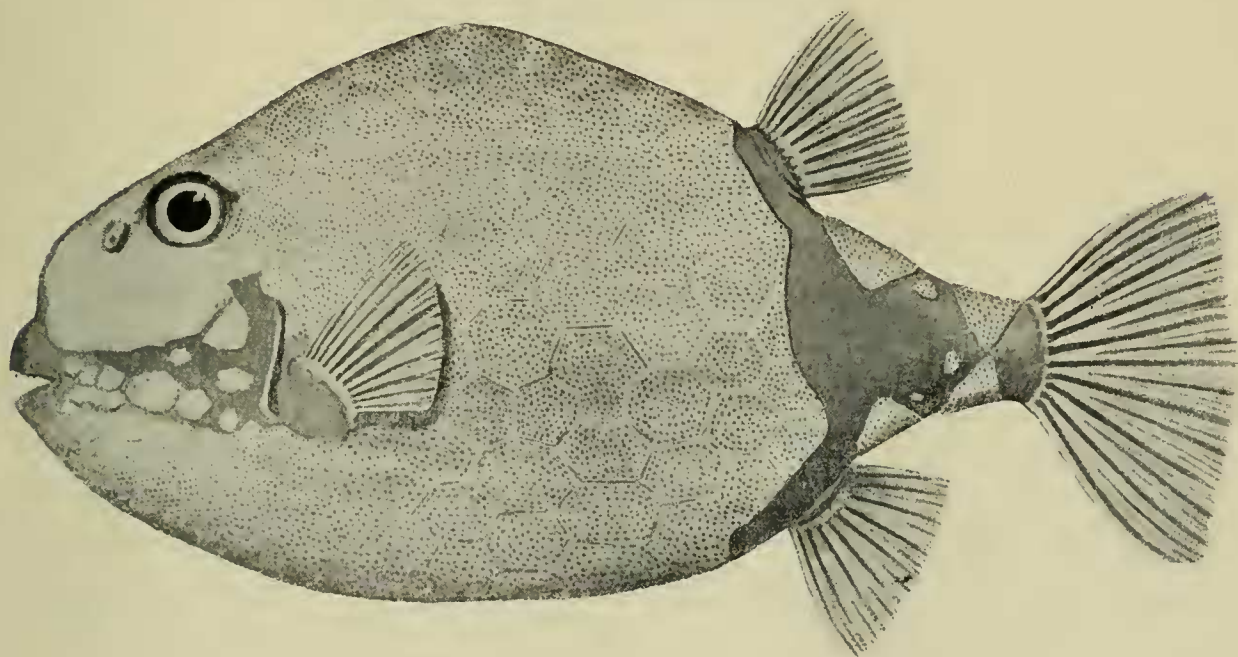


Fig. 319. *Anoplocapros lenticularis*.

ANOPOLOCAPROS GIBBOSUS McCulloch & Waite.

Anoplocapros gibbosus McCull. & Waite, T.R.S., S.A., xxxix, 1915, p. 480, pl. xviii.

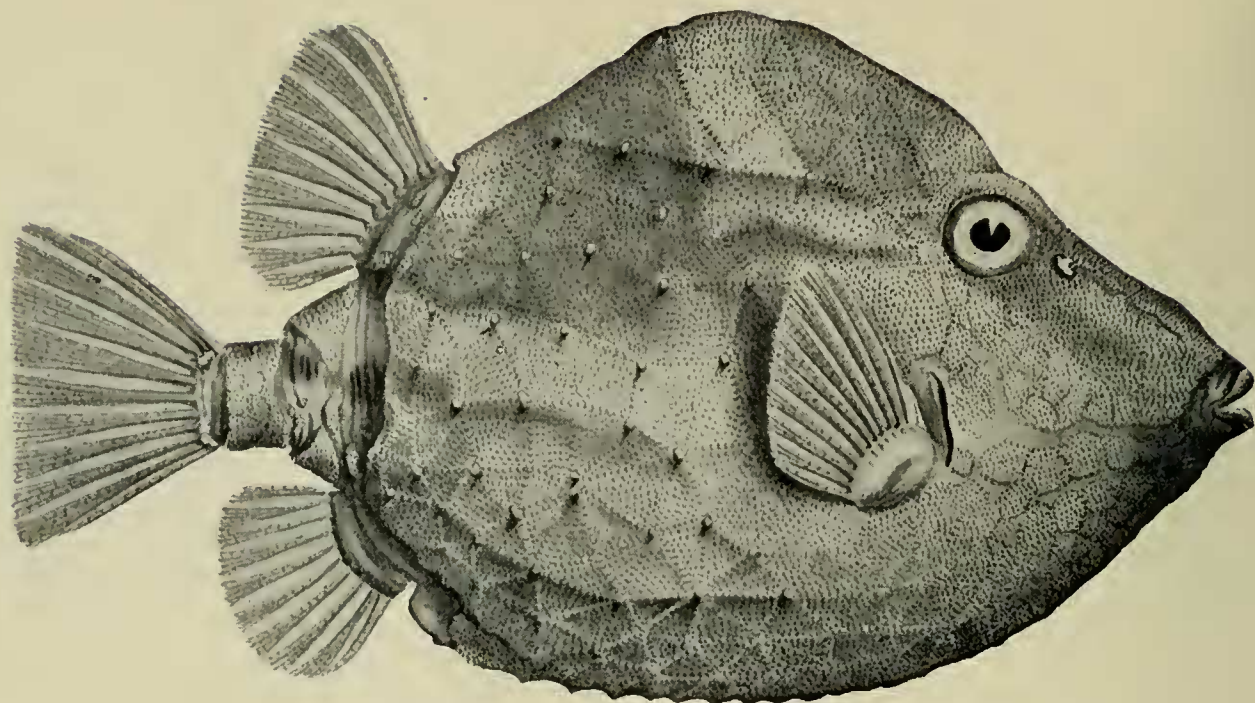


Fig. 320. *Anoplocapros gibbosus*.

ARACANA Gray, 1838 (*ornata*).

ARACANA ORNATA Gray (Common Cow-fish).

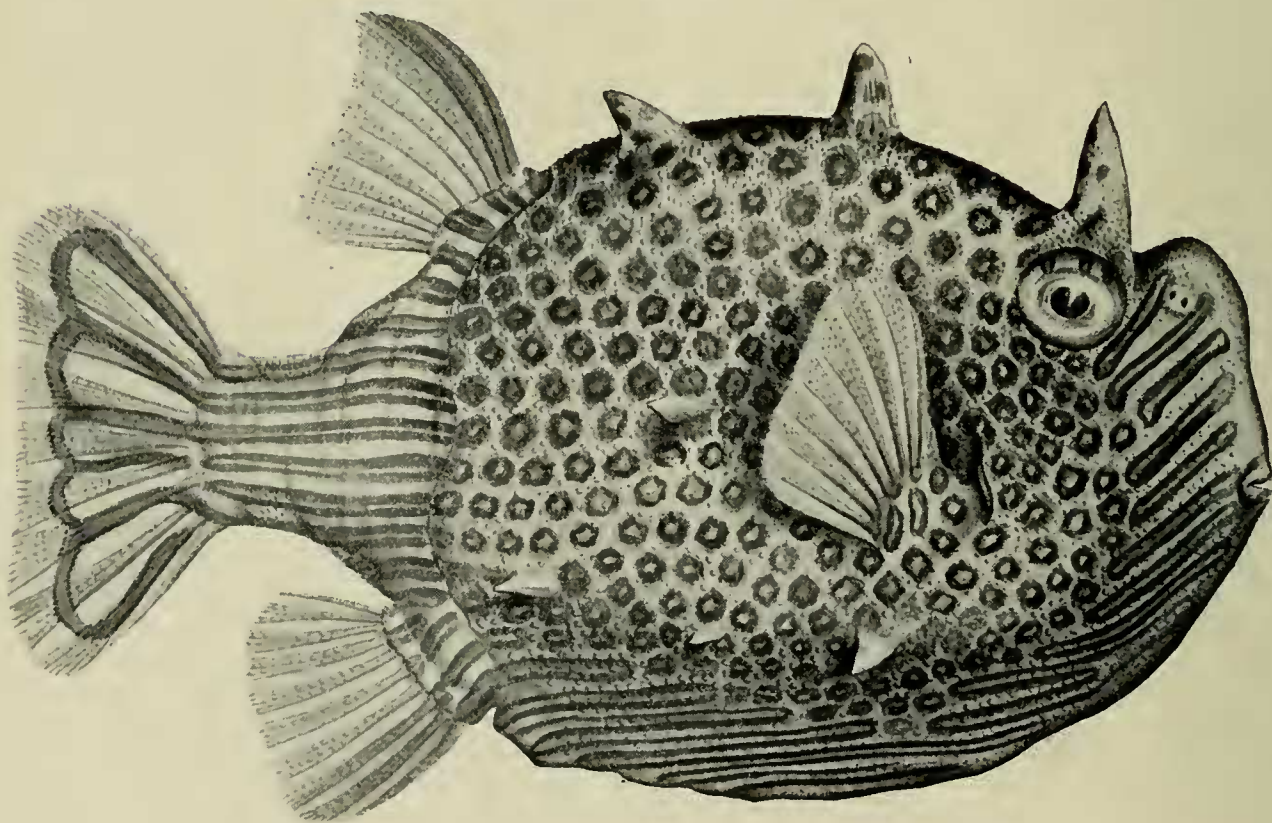


Fig. 321. *Aracana ornata*,

Aracana ornata Gray, A.M.N.H., i, 1838, p. 110; Rich., P.Z.S., 1840, p. 27 and T.Z.S., iii, 1849, p. 165, pl. x, fig. 2; McCull. & Waite, T.R.S., S.A., xxxix, 1915, p. 489, pl. xxiv.

Members of this genus differ from the other box fishes in having spines on the head, suggesting the horns of a cow.

ARACANA AURITA Shaw.

Ostracion auritus Shaw, Nat. Misc., ix, 1798, pl. cccxxxviii and Gen. Zool., v, 1804, p. 429, pl. clxxiii.

Aracana aurita Gray, Ill. Ind. Zool., 1829, pl. xcviii, fig. 2 and A.M.N.H., i, 1838, p. 110; Rich., P.Z.S., 1840, p. 27 and T.Z.S., iii, 1849, p. 160, pl. ix, fig. 1, 2; Bleek., Verh. Akad. Wetens. Amsterd., ii, 1855, p. 46; McCull & Waite, T.R.S., S.A., xxxix, 1915, p. 484, pl. xx (syn.).

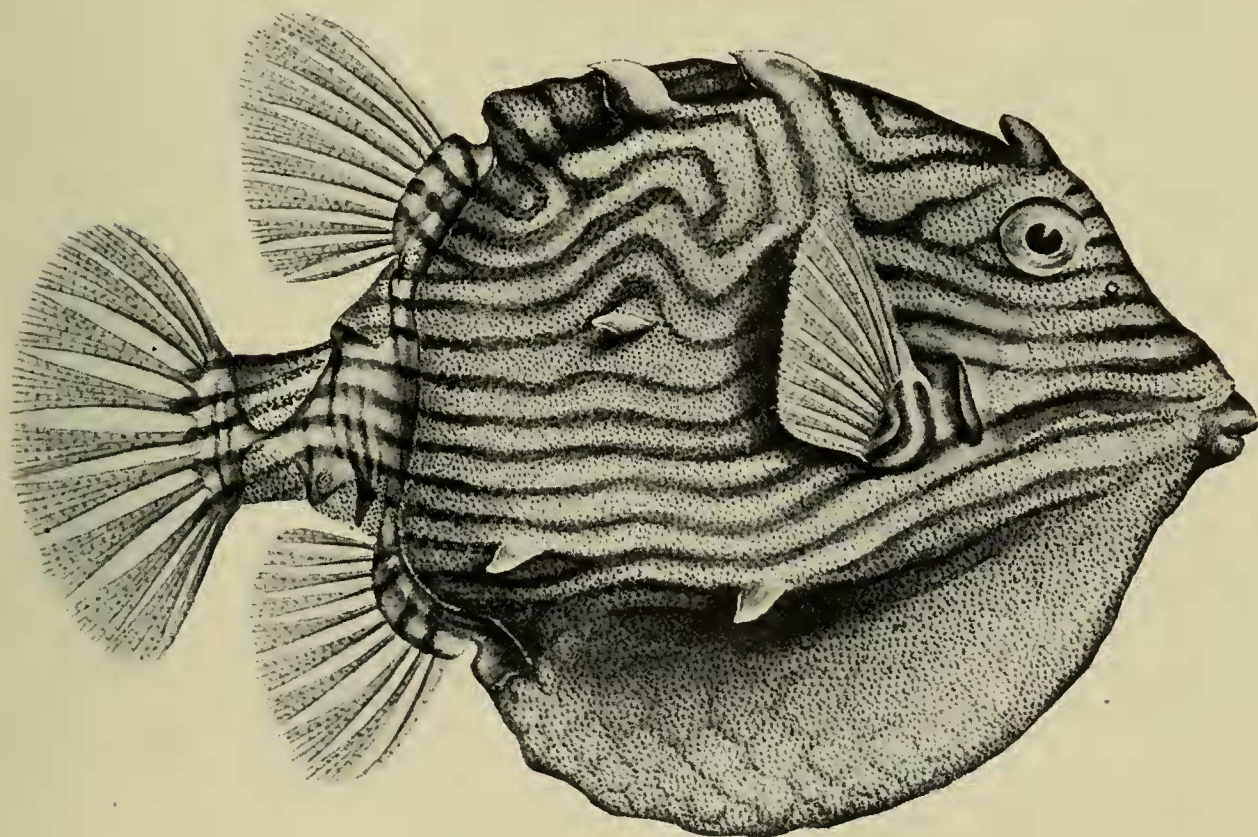


Fig. 322. *Aracana aurita*,

ARACANA SPILOGASTRA Richardson.

Aracana spilogaster Rich., P.Z.S., 1840, p. 27 and T.Z.S., iii, 1849, p. 163, pl. x, fig. 1; Bleek., Verh. Akad. Wetens. Amsterd., ii, 1855, p. 47.

South Australian specimens are referred to a variety, as below.

var. ANGUSTA McCulloch & Waite.

Aracana spilogaster var. *angusta* McCull. & Waite, T.R.S., S.A., xxxix, 1915, p. 488, pl. xxiii.

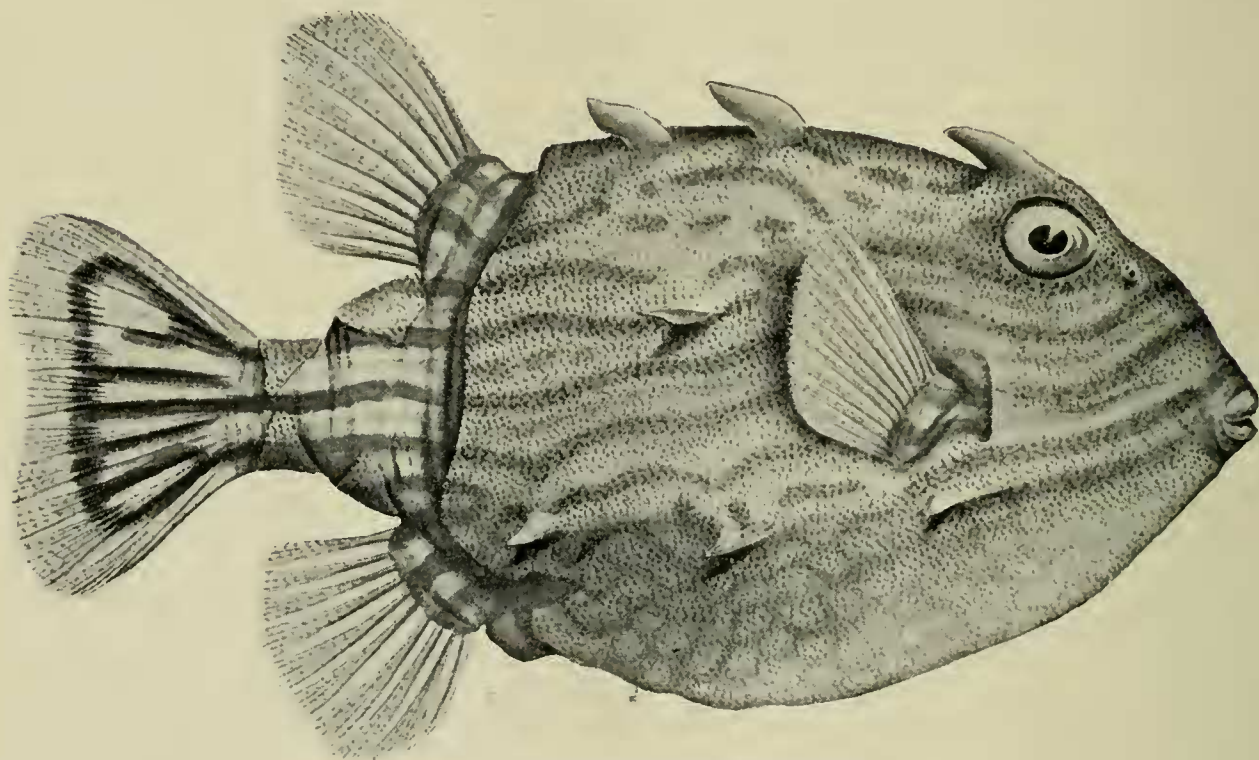


Fig. 323. *Aracana spilogaster*, var. *angusta*.

ARACANA FLAVIGASTRA Gray.

Aracana flavigaster Gray, A.M.N.H., i, 1838, p. 110; Rich., P.Z.S., 1840, p. 27 and T.Z.S., iii, 1849, p. 164, pl. xi, fig. 1; McCull. & Waite, T.R.S., S.A., xxxix, 1915, p. 491, p. xxv (syn.).

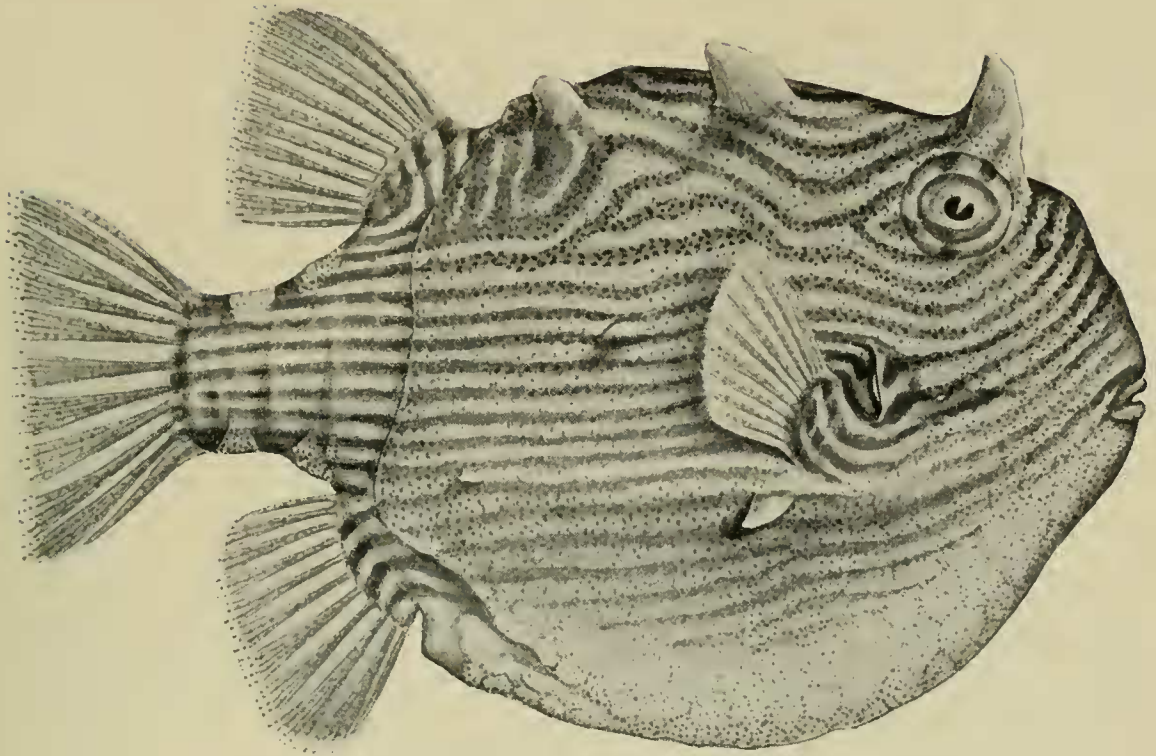


Fig. 324. *Aracana flavigastra*.

DIVISION G Y M N O D O N T E S .

FAMILY TETRAODONTIDAE.

TETRAODON Linnaeus, 1758 (*testudineus*).

TETRAODON TETRAGONUS Forster (Silver Toado).

Tetrodon tetragonus Forst., in Gmel., Syst. Nat. (ed. xiii), 1788, p. 1444.

Tetrodon seeleratus Gmel., *loc. cit.*

Tetrodon argenteus Lacep., Ann. Mus. Hist. Nat., 1804, p. 211, pl. lviii, fig. 2;
Bleek., Atl. Ichth., v, 1865, p. 64, pl. ccix, fig. 1.

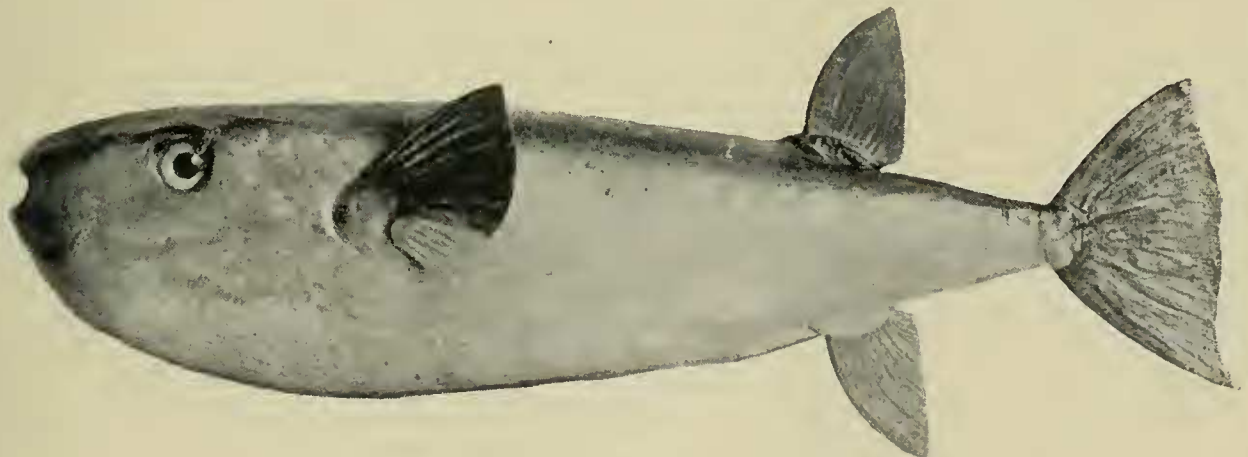


Fig. 325. *Tetraodon tetragonus*.

Tetrodon argyropleura Benn., Proc. Comm. Zool. Soc., ii, 1832, p. 184.

Spheroides sceleratus Jord. & Snyder, P.U.S. Nat. Mus., xxiv, 1901, p. 234 (syn.).

The Toados are not edible, and certain species are at times poisonous.

TETRAODON RICHEI Freminville (Common Toado).

Tetrodon richei Frem., Nouv. Bull. Philom., iii, 1813, p. 250, pl. iv, fig. 2.

Gastrophysus richei Bleek., Verh. Akad. Wetens. Amsterd., ii, 1855, p. 44, fig. 3.

Amblyrhynchotus richei Bibr., Rev. Zool., 1855, p. 280.

Spheroides richei Jord. & Snyder, P.U.S. Nat. Mus., xxiv, 1901, p. 248.

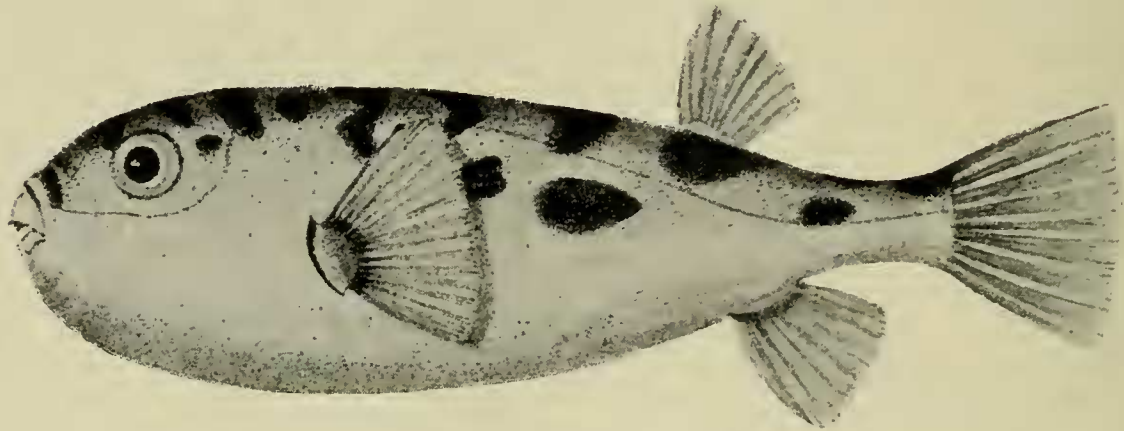


Fig. 326. *Tetraodon richei*.

The Tetraodons are elsewhere known as Puffers and Swell-fishes, names given in allusion to the habit of distending their bodies with water or air.

TETRAODON LIOSOMUS Regan.

Spheroides liosomus Regan, A.M.N.H. (8), iv, 1909, p. 439.

TETRAODON ARMILLA Waite & McCulloch (Ringed Toado).

Tetraodon armilla Waite & McCull., T.R.S., S.A., xxxix, 1915, p. 475, pl. xv.

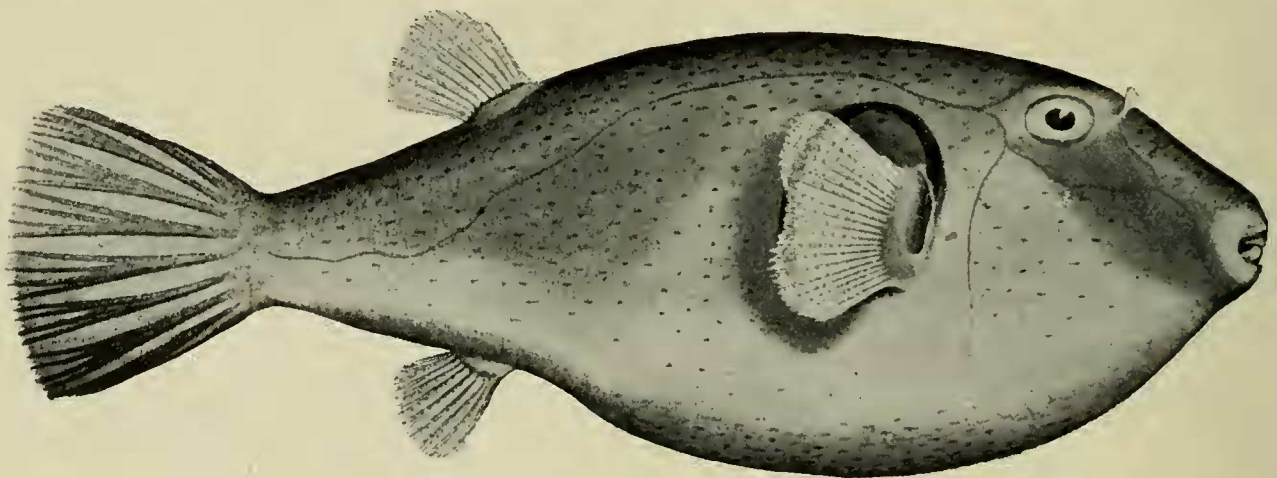


Fig. 328. *Tetraodon armilla*.

FAMILY DIODONTIDAE.

DIODON Linnaeus, 1758 (hystrix).**DIODON HOLOCANTHUS** Linnaeus (Poreupine Fish).

Diodon holocanthus Linn., Syst. Nat. (ed. x), 1758, p. 335.

Diodon liturosus Shaw, Gen. Zool., v, 1806, p. 436.

Diodon spinosissimus, *D. novemmaculatus*, *D. sexmaculatus*, *D. multimaculatus*
and *D. quadrimaculatus* Cuv., Mem. Mus. Hist. Nat., iv, 1818, p. 134..

Diodon melanopsis Kaup., Wieg. Arch., 1855, p. 228.

Paradiodon novemmaculatus and *P. quadrimaculatus* Bleek., Atlas Ichth., v,
1865, p. 57, 58, pl. cexi, fig. 3 and cexii, fig. 2.

Diodon maculatus Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 307.

CHILOMYCTERUS Bibron, 1846 (reticulatus).**CHILOMYCTERUS JACULIFERUS** Cuvier (Javelin Fish).

Diodon jaculiferus Cuv., Mem. Mus. Hist. Nat., iv, 1818, p. 130, pl. vii.

Chilomycterus jaculiferus Günth., Cat. Fish. Brit. Mus., viii, 1870, p. 313; Waite,
Mem. Aust. Mus., iv, 1899, p. 98.

Dicotylichthys jaculiferus Waite, Mem. N.S.W. Nat. Club, ii, 1904, p. 58.

ATOPOMYCTERUS Bleeker, 1865 (nychthemerus).**ATOPOMYCTERUS NICHTHEMERUS** Cuvier (Poreupine Fish).

Diodon nichthemerus Cuv., Mem. Mus. Hist. Nat., iv, 1818, p. 135, pl. vii, fig. 5;
Bleek., Verh. Akad. Wetens. Amsterd., ii, 1855, p. 45.

Atopomycterus nychthemerus Bleek., Atlas Ichth., v, 1865, p. 49; Günth., Cat.
Fish. Brit. Mus., viii, 1870, p. 315.

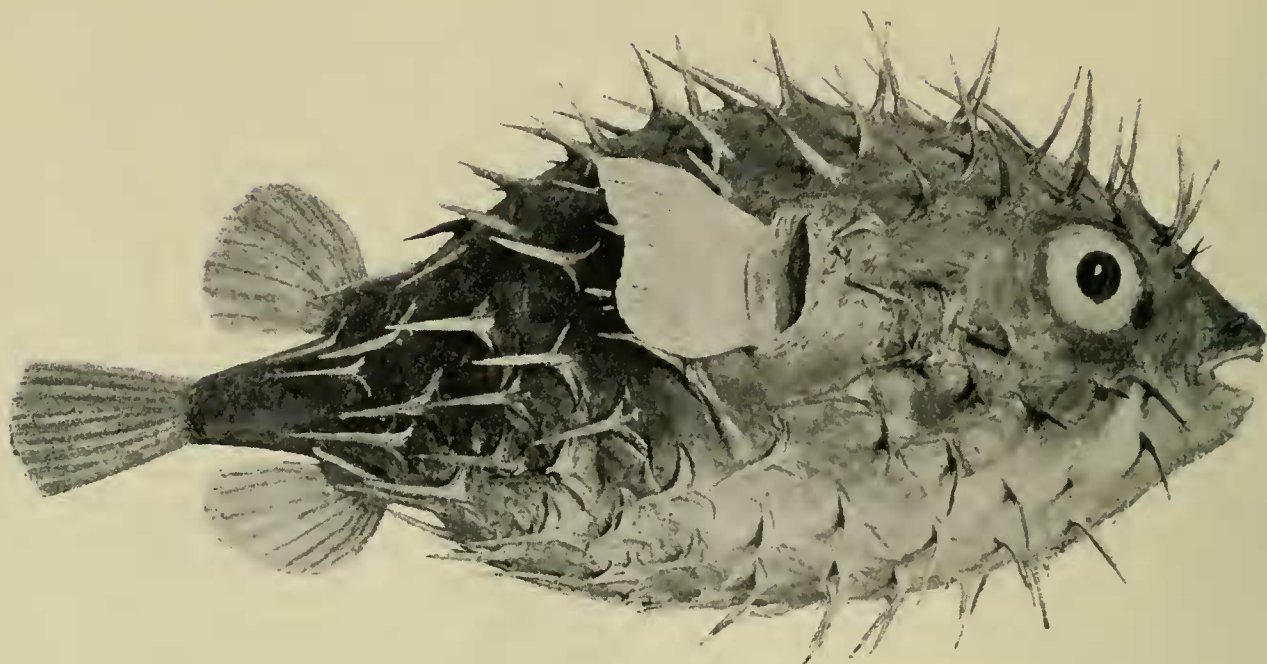


Fig. 331. *Atopomyxerus nichthemerus*.

The names of the genera *Tetraodon* and *Diodon* are derived from the characters of the dentition, the teeth forming a beak, like that of a turtle. In the *Tetraodons* each jaw is divided in the middle, four teeth being thus produced: in the *Diodons* the beak is undivided.

FAMILY MOLIDAE.

MOLA Koelreuter, 1766 (*aculeata*=*mola*).

MOLA MOLA Linnaeus (Sunfish).

Tetraodon mola Linn., Syst. Nat. (ed. x). 1758, p. 334.

Mola aculeata Koelr., Nov. Comm. Acad. Petropol., x, 1766, p. 337, pl. viii, fig. 2, 3.

Mola mola Linck., Mag. Neues. Physik. u. Naturg., Gotha, 1790, p. 37; Jord. & Everm., Bull. 47. U.S. Nat. Mus., ii, 1898, p. 1753 (syn.); Waite, Trans. N.Z. Inst., xlv, 1913, p. 223, pl. ix.

Orthroriscus mola, Bl. & Schm., Syst. Ichth., 1801, p. 510.

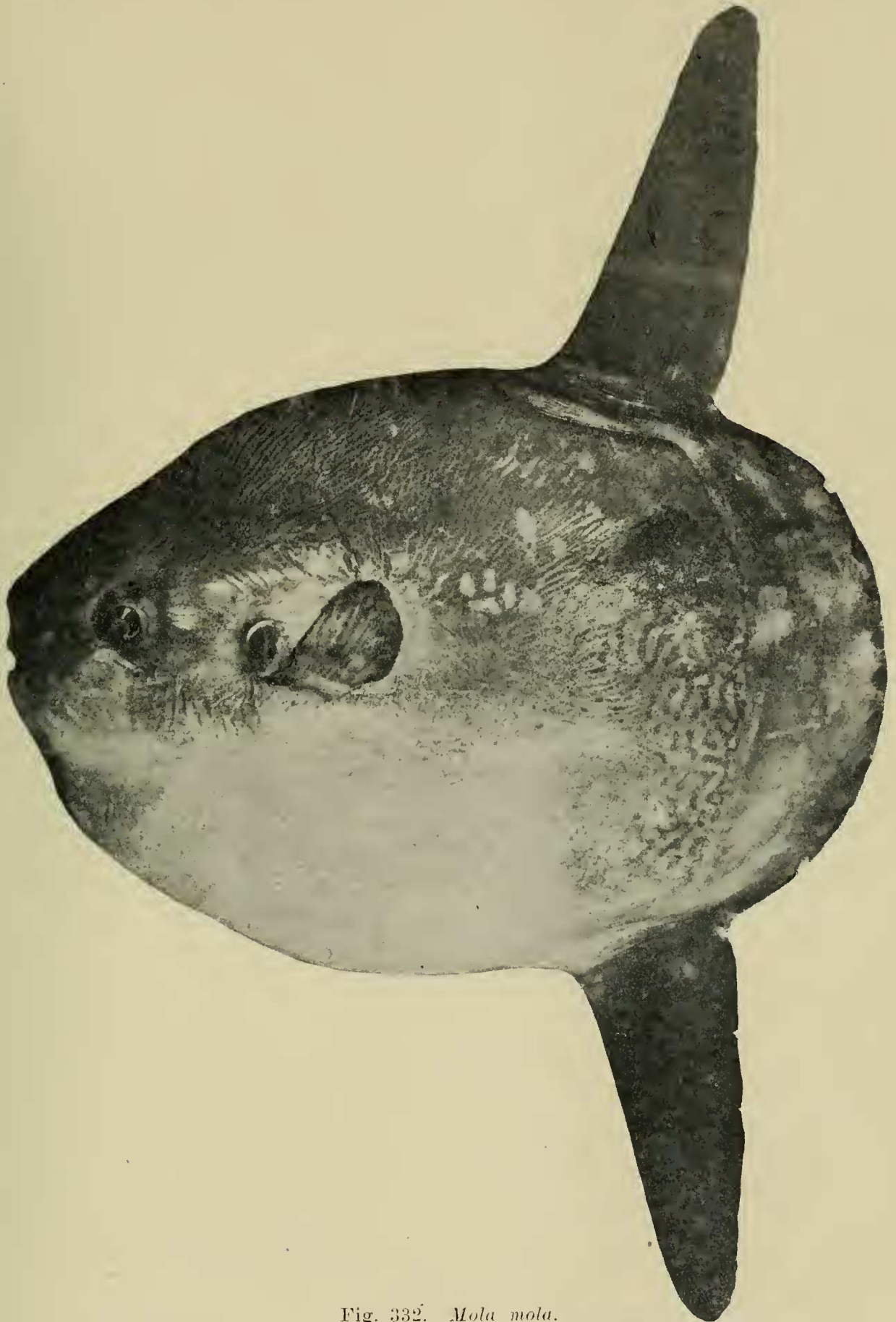


Fig. 332. *Mola mola*.

An enormous pelagic fish; examples have been taken weighing over 16 cwt.

Note. The majority of the illustrations are smaller than the adult fishes they represent: those numbered as follows are, however, larger than in nature:

Fig. 1, 55, 56, 62, 63, 78, 79, 80, 81, 84, 91, 94, 95, 118, 119, 121, 122, 123, 141, 150, 230, 233, 234, 235, 237, 240, 244, 251, 252, 253, 300, 301, 302, 304.

Corrections. Page 5, line 15, after *Cyclostomata* read *Plagiostomi*.
Page 46, line 2, for Family *Siluridae* read *Plotosidae*.

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